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# BUSINESS

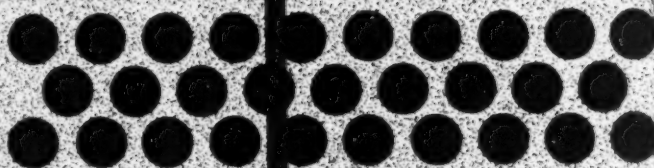
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April 1958

# BUSINESS

JOURNAL OF MANAGEMENT

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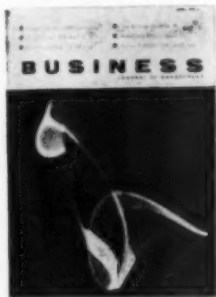
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COVER PICTURE

This is an actual colour photograph. It was taken by Ben F. Laposky, Iowa, U.S.A., by feeding complex oscillations to a cathode-ray tube, then photographing the pattern through a revolving wheel of colour filters. Mr. Laposky calls the results 'Oscillons'. He sells them to industrial designers, particularly of textiles and ceramics.

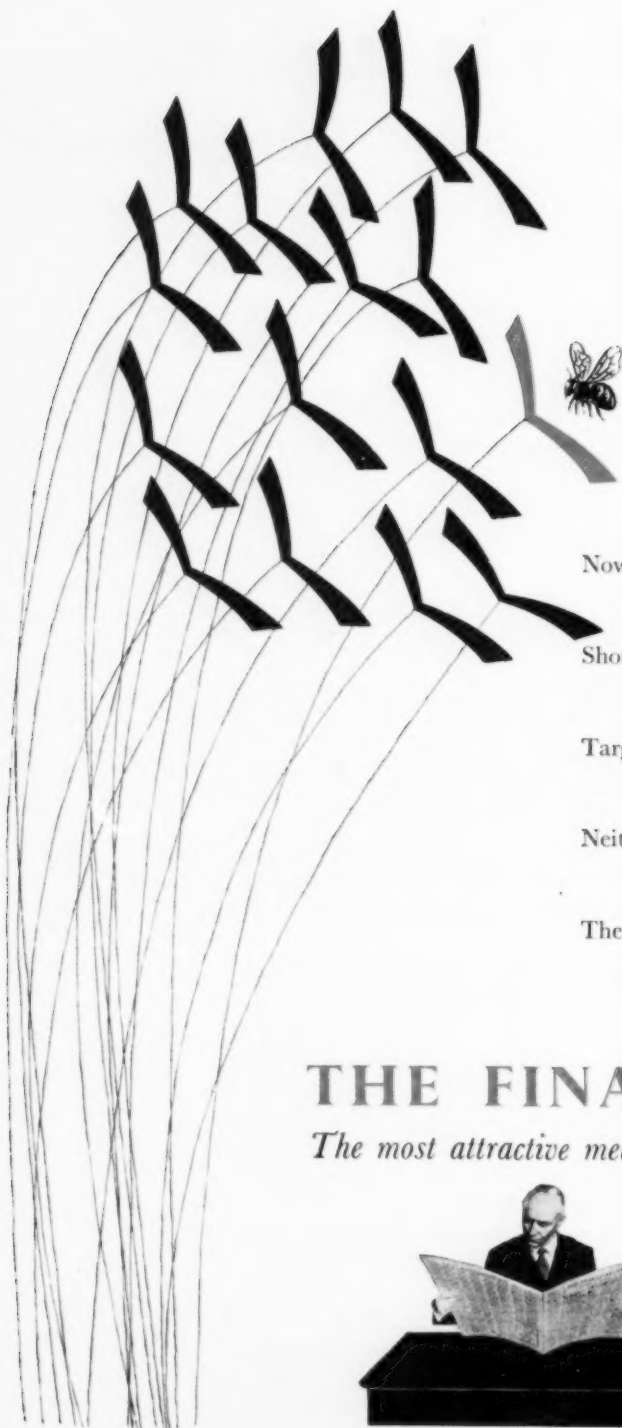
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# ECONOMIC PROSPECT

*Survey and Forecast of Business Conditions*

## *Steady summer output?*

► Prospects for a rise in business activity this summer cannot be ruled out. Governments on both sides of the Atlantic have been slow to act against recession, but in Britain at least the Bank Rate cut was timely.

► Twenty-three key economic indicators on the following pages are on balance slightly depressing. Eight suggest levelling-off, six suggest rising business and nine suggest a fall-off.

► F.B.I. survey of 542 companies indicated a levelling-off in recent output and deliveries, but also showed that future investment plans by industry are being revised downwards.

## *Profits squeezed*

► Profit margins are being squeezed, and this has a decisive effect on the willingness and ability of firms to continue with expansion plans.

► As forecast here, wage rates are rising moderately, and this is squeezing profits. But it has also meant a rise in personal spending.

► Raw material prices are unlikely to rise, may even slide further, under competition from Iron Curtain supplies.

## *International action needed*

► British trade balance is likely to remain healthy. But the British Government cannot take very active steps to revive world trade without close support from America and Europe. Our gold reserves are too small.

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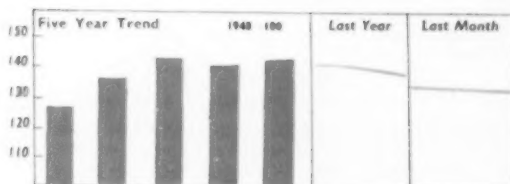
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# STATE OF THE NATION

- Five key indicators to the State of the Nation, followed by 18 indicators to the main economic influences.

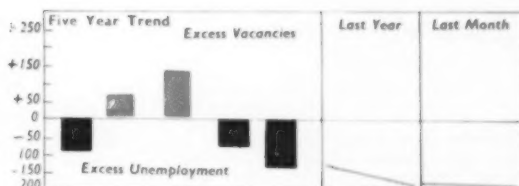
## INDUSTRIAL PRODUCTION ▶

In January industrial production showed a slight seasonal rise, with the provisional index at 137.138. This is 2 to 3 points above December's figure, and about the same as a year earlier but 2 to 3 points less than two years earlier. The car industry's activity was double that of a year earlier, but this was offset by disappointing steel exports and the slow-down in coal-mining.



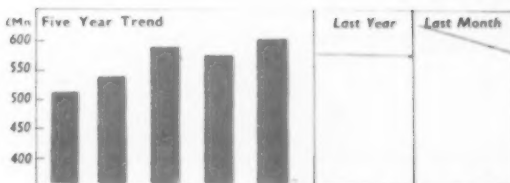
## EMPLOYMENT POSITION ▶

Unemployment is at the highest level since 1953. In February there were 216,000 more unemployed than vacancies. This is 41,000 more than a month earlier, 75,000 more than a year earlier and 20,000 more than 5 years earlier. National percentage of unemployment has risen to 1.9, but in Wales it rose to 3.8 and in Scotland to 3.6.



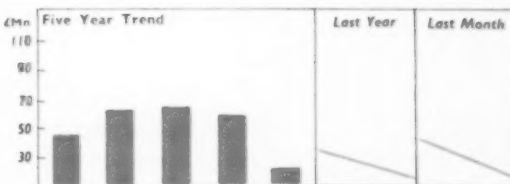
## MONEY FLOW ▶

Business money flow has declined from the seasonal peak. February average daily bank clearings were £568 million—a fall of £32 million on January and level with the figure a year earlier.



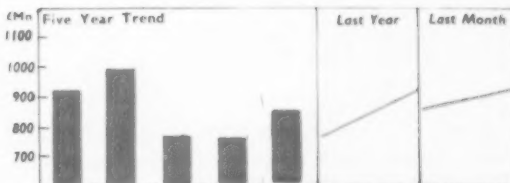
## TRADE GAP ▶

Trade gap has reached the lowest point for 11½ years. February's excess of imports over exports was £11.3 million—£23.4 million below January, £20.4 million below a year earlier, and the lowest since 1946. The drop in imports is chiefly responsible for the improvement (they were 12 per cent lower than a year earlier) whilst exports have been stable, as compared with a 5 per cent increase a year earlier.



## GOLD AND DOLLAR RESERVES ▶

Gold and Dollar reserves have again risen substantially. The February total was £907 million—£48 million above January, £140 million above a year earlier—and the highest since February 1955, when reserves were £958 million. The E.P.U. surplus for February was £45 million, the biggest for 8 years, being partly accounted for by Royal Dutch sterling purchases. Nevertheless, the trend is encouraging.



● KEY TO THE CHARTS. Bar charts show the 'Five Year Trend,' taking for each year the average monthly value during the most recent three months. Graph lines for 'The Last Year' compare the most recent month with the same month a year ago. Graph lines for 'Last Month' compare the most recent month with the previous month.

● READERS' ENQUIRIES. Spot enquiries by letter or telephone, involving no research, are answered free. More detailed enquiries will be charged for at rates on the basis of professional staff time absorbed. This applies to both general management and economic enquiries.

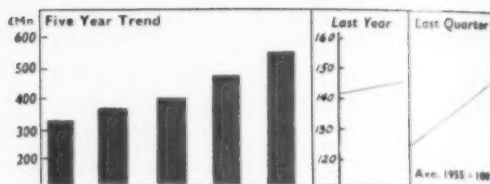


# MAIN ECONOMIC INFLUENCES on the STATE OF THE NATION

## 1. Trends in CAPITAL SPENDING

### INDUSTRIAL INVESTMENT PLANS ▶

**Industrial investment has levelled off.** The Board of Trade Index for the fourth quarter of last year was 144—an increase of 2 per cent compared with a year earlier, as against increases of 13, 9 and 5 per cent in the first, second and third quarters. Overall increase this year over last is expected to be 2 per cent, with 4 per cent more spending on plant and machinery and 2 per cent less on building.



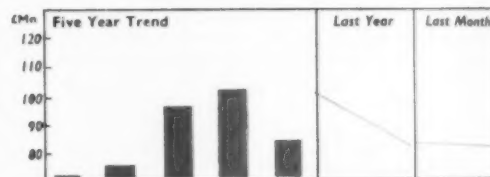
### FACTORY BUILDING APPROVALS ▶

**Factory building approvals continue at a low level.** The latest available figure, for the last quarter of 1957, is 13.8 million square feet—1.4 million below a year earlier and 5.9 million below three years earlier. Proposed restriction of government and nationalized industry's fixed investment spending seems likely to retard expansion during the next two years.



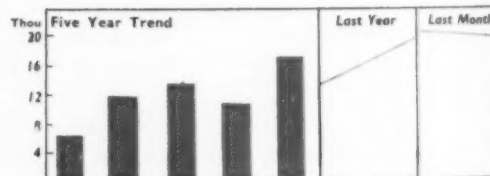
### MACHINE TOOL ORDERS ▶

**Machine tool orders in hand now represent less than nine months' work.** The latest available complete figure, however, is for December 1957. This shows £78.7 million outstanding orders—£1.7 million less than a month earlier and £19.7 million less than a year earlier. Although production in some sectors has had to be cut back, there is a generally high level of activity.



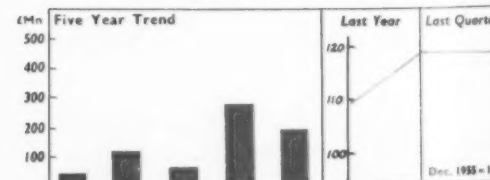
### INDUSTRIAL HIRE PURCHASE ▶

**Industrial hire purchase has recently been buoyant and is still at a record level.** The number of H.P. contracts for new cars and commercial vehicles in February was 19,185—a fall of 786 on January, but a rise of 5,909 on a year earlier and 12,577 more than four years earlier.



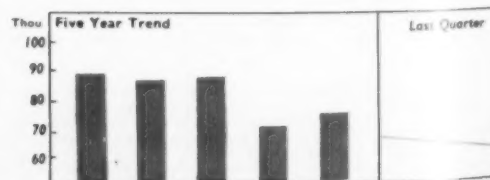
### MATERIAL STOCKS ▶

**Material stocks have remained at a steady level.** The provisional Board of Trade index for the fourth quarter of 1957 was 118.4—0.1 lower than the previous quarter, but 8.5 higher than a year earlier and 18.4 higher than two years earlier. Small increases in the value of materials and fuel and finished goods were offset by a decrease in the value of work in progress.



### HOME BUILDING STARTS ▶

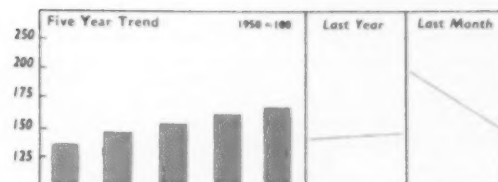
**Home building starts, although declining, should show a seasonal improvement soon.** The latest available figure, for the last quarter of 1957, was 61,686—12,413 less than the third quarter, 4,705 less than a year earlier, and 20,943 less than four years earlier. Building and contracting should be among the first to benefit from any relaxation of financial restraint.



## 2. Trends in CONSUMER SPENDING

### RETAIL SALES ▶

Retail sales are at a steady level. The Board of Trade index for January was 146—50 points lower than December, but 3 points higher than a year earlier and 34 points higher than five years earlier. The January figure covered the winter clearance sales more completely than last year, and this largely explains the apparent levelling-off. Multiple retailers and co-operatives did better than independent traders.



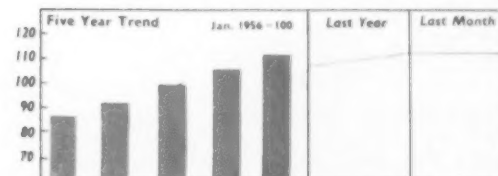
### DOMESTIC HIRE PURCHASE ▶

Domestic H.P. continues at a remarkably high level. The number of contracts for used cars in February was 42,126—1,130 above January, 6,372 above a year earlier and 29,734 above five years earlier. Radios, electrical goods, furniture and furnishings are chiefly responsible for the increase.



### WAGE RATES ▶

Wage rates continue unchanged but may rise slightly soon. The January index was 112, for the fourth successive month, but was 6 points above a year earlier and 26 points above five years earlier. The award recently granted to B.B.C. and bus employees may herald further increases soon.



### PERSONAL EXPENDITURE ▶

Personal expenditure is likely to rise more rapidly soon. The latest available figure, for the third quarter of 1957, is £3,556 million—£157 million higher than a year earlier and £747 million higher than five years earlier. Record spending, in both money and real terms, in the last quarter of 1957 may well denote a sharper rise.



## 3. Trends in PUBLIC SPENDING

### PAYMENTS FROM EXCHEQUER ▶

Payments from exchequer are to date about £24 million more than a year earlier. Total payments to March 1 this year were about £4,398 million, compared with £4,374 to March 2, 1957. The latest figure is rather more encouraging than expected.



### EXCHEQUER DEFICIT ▶

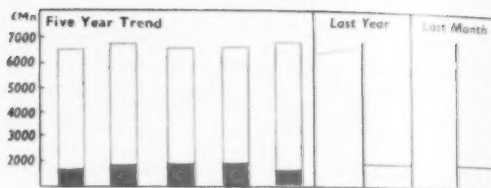
Exchequer deficit has recently been somewhat less than a year earlier. Total deficit to March 1 this year was £203 million, compared with £244 million a year earlier and a total deficit of £277 million for 1954.



## 4. Trends in CREDIT POLICY

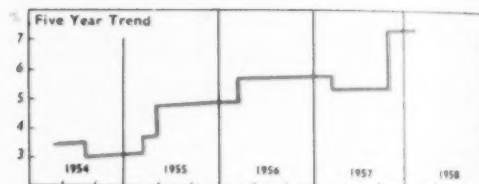
### BANK DEPOSITS AND ADVANCES ▶

**Bank deposits have fallen but advances have risen.** February deposits were £6,400 million—£310 million down on January, but £210 million up on a year earlier. Advances were £1,880 million—£21 million up on January and £43 million up on a year earlier—and are likely to reach a seasonal peak in midsummer.



### BANK RATE ▶

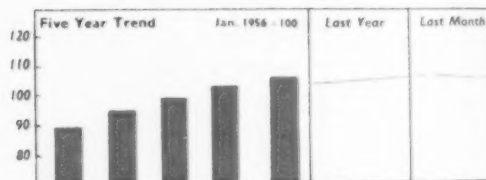
**Bank rate has been reduced to 6%, as forecast here.** This was desirable as a stimulus to investment and to prevent spreading unemployment. General wage claim moderation, stable prices and a firm pound have made the cut possible. Recent movements of the rate are shown on the accompanying chart.



## 5. Trends in MARKET PRICES

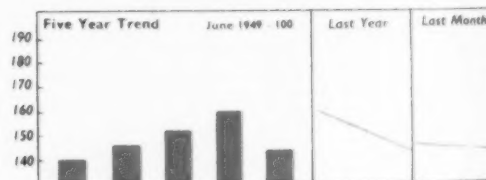
### RETAIL PRICES ▶

**Retail prices have fallen again, as predicted here.** The index for February was 107.6—a fall of 0.5 on January, but a rise of 3.3 on a year earlier, and 16.6 on five years earlier. This reduction was caused by a substantial fall in the price of eggs, and smaller falls in the prices of fish and butter. Subsequent reductions in the prices of clothing, tyres and domestic boilers may bring a further fall in the index.



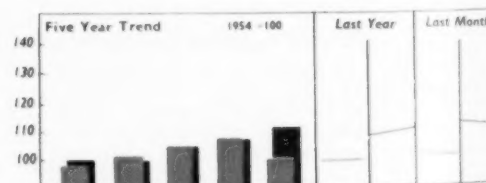
### RAW MATERIAL PRICES ▶

**Raw material prices do not seem yet to have reached their lowest level.** Provisional February index was 141.5—or 0.5 points below January, 18.1 below a year earlier, but 1.2 above four years earlier. There may be a rise later in the year, but it is certainly unlikely in the immediate future.



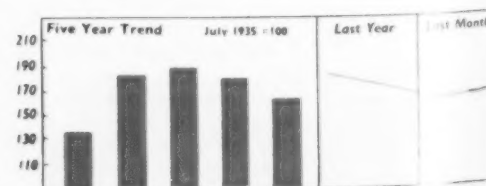
### TERMS OF TRADE ▶

**Terms of trade have recently moved more in our favour.** February import price index was 99—1 point below January, but 2 points below a year earlier and 11 points above four years earlier. February export price index rose 1 point on January to 111—1 point above a year earlier, and 11 points above four years earlier.



### SHARE PRICES ▶

**Share prices have recently shown signs of picking up.** At the time of going to press, the *Financial Times* index of industrial ordinary shares is around 160.0—or 0.7 higher than the average for February, but 29.5 lower than a year earlier, and 23.1 lower than three years earlier.



## Perils of inflation

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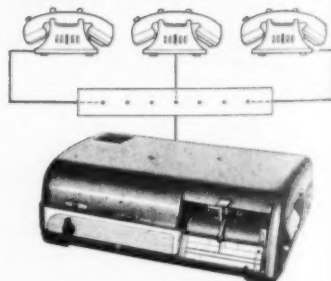
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# HOME MARKET SURVEY

*A Round Britain Survey: Regional Notes on Markets and Industrial Developments*

## YORKSHIRE

**I**NDUSTRIAL activity in the region continues at a high level though there are indications that order books have shortened compared with the same period of last year. While competition for markets is on the increase competition for labour is becoming less severe.

Since about September a general slackening of activity in the **wool industry** has made itself apparent, and whilst most sectors have been suffering, the effect has been most marked in heavy woollens, causing many companies to go on short time.

While most **steel and engineering** works appear to be as busy as ever, some firms have no backlog of orders left but have sufficient in hand to keep going for the present. Deliveries of a few weeks are now being quoted, compared with up to eighteen months about a year ago. Although there is no undue optimism, the reverse does not apply either, and there is a feeling that the present situation may only be a passing phase.

William Jessop and Sons, the Sheffield steel company, is to spend £2 million in a four-year plan for expansion and renewal of equipment. Most of this sum will be spent on the technical improvement of special steels.

British Acheson Electrodes, also of Sheffield, are engaged on a big development project costing £4 million. This comprises the construction of large heat-treatment kilns for producing graphite for steel-making electrodes and also for nuclear energy reactors.

George Turton, Platts and Co., of Sheffield, are planning large extensions to facilitate the manufacture of hydro-pneumatic buffers required by British Railways under their modernization programme. During the past year the firm has greatly increased the productivity of existing equipment, bringing about a rise in output and turnover despite certain trading difficulties.

The famous Chapeltown firm of Newton Chambers and Co., and the Ipswich firm of Ransomes and Rapier are negotiating for amalgamation of their interests. Both believe that they are similar in tradition and outlook and that this form of rationalization and expansion would be an advantage to both.

Modernization work which began on the 12½-acre site of the Neepsend gasworks, Sheffield, is now only about 9 months from completion. A £500,000 mechanical handling system has been very carefully fitted into the existing space, resulting in a virtually new installation, one of the largest in the East Riding, capable of

purifying and distributing 34 million cu. ft. of gas a day.

Stanley Works (G.B.) have opened a new £200,000 hammer factory at Ecclesfield, near Sheffield. Present output is 250,000 hammers per year, but this figure will eventually be doubled. Although incorporating many U.S. hammer-making processes, some of the factory's plant is more up to date than that used in America, and the use of automatic temperature control in forging is said to ensure correct grain structure in the metal.

Doncaster Plant Works are altering their premises to meet the requirements of the London suburban services for multi-unit electric rail stock. Modifications include the addition of eight more building stages for fitting electrical equipment in one of the bays of the building shop. Several machines have been replaced by newer models, one of which is a 4ft. diameter wheel lathe with a push-button control system.

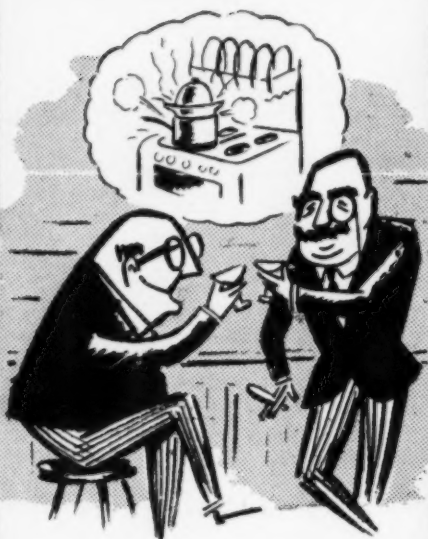
Moore and Wright of Sheffield, the manufacturers of engineers' precision and hand tools, are building a new factory at Handsworth near Sheffield. It will occupy over 150,000sq. ft. in a 10-acre site.

Substantial orders for rolling mill plant have led the Brightside Foundry and Engineering Company to start building a new ingot mould foundry at Ecclesfield. The cost is expected to amount to over £500,000.

The English Steel Corporation is progressing with



The vertical line at 100 represents the national average level of retail trade for the latest month (January). Against this average the performance of each region may be measured



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will have  
the more for his supper"*

*(French Proverb)*

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plans for the construction at Tinsley Park of a new steelworks. Work on the site should begin soon, and it is hoped that a modern plant for the production of laminated springs will be in full operation next year. Erection of another new building for the same concern in Sheffield is now going ahead rapidly. It will house heavy machine tools for machining specialized forgings and castings and should be working by the end of this year.

Davy United Engineering plan to increase their capacity to keep pace with the engineering orders resulting from the big expansion programme in the iron and steel industry (seven years ago the firm's order book totalled £7 million, today it stands at £28 million, representing three years' work). The programme will involve both works extensions and more heavy machine tools.

British Nylon Spinners are engaged on a £3 to £4 million expansion scheme at Doncaster which will provide jobs for about 800 more people. The extension to the company's Wheatley Hall Road factory should be fully equipped and operating by January, 1959. Other construction work on the site provides for an extension of the electrical distribution system to serve the larger plant and to allow for any further expansion necessary to meet the increasing demand for nylon yarns.

Other concerns that are enlarging their interests at Doncaster are International Harvester, who should be completing their expansion soon, and Briggs Motor Bodies, who recently expanded to meet the demand for the Ford Popular, Esquire, Escort and Thames Sewt. van, production of which is being transferred to Doncaster from Dagenham.

Henry Freedman, a subsidiary of the Mabgate Clothing Company of Leeds, are closing their clothing factory at South Kirkby, which was built in 1952 on Hemsworth Rural District Council's industrial estate at a cost of £75,000.

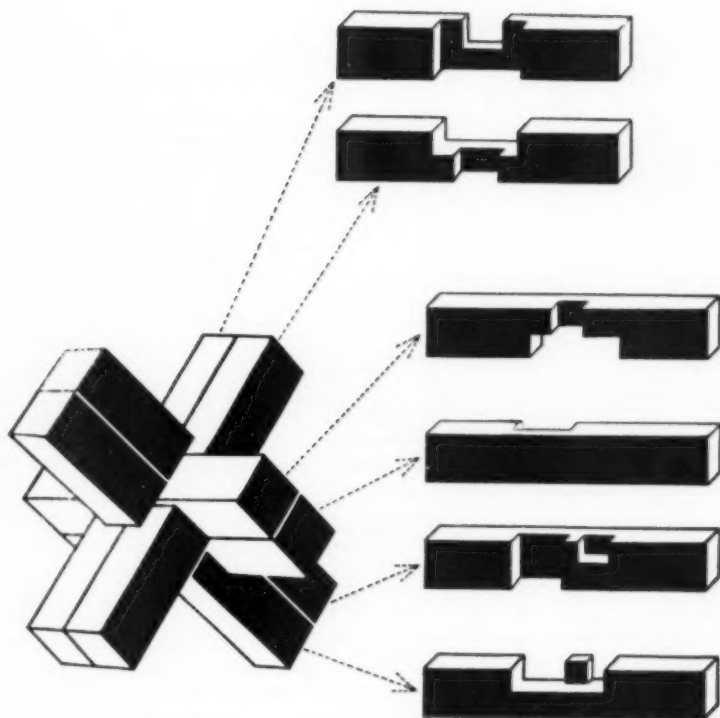
The Central Electricity Authority plans to build a £40 million coal-powered generating station at Thorpe Marsh, near Doncaster. A steel boiler, claimed to be the largest in the world, will evaporate nearly 1,700 tons of water an hour, and will exceed in output the whole of Battersea power station, which uses 17 boilers.

The U.K. Atomic Energy Authority is planning a huge coke store at Doncaster. The aim is to build up a store of 30,000 tons of the special coke used in the manufacture of graphite for nuclear reactors.

The Tees Valley Water Board is planning a reservoir at Dine Holm, in Upper Teesdale. The scheme includes a 4,000 million gallon impounding reservoir to cope with the rapidly increasing demands of industry on Tees-side.

At Teesport a new oil installation has been established

BUSINESS



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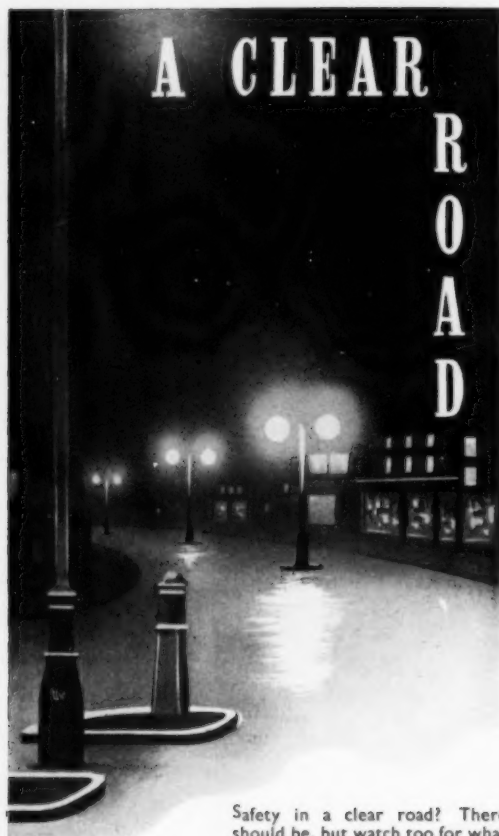
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## ECONOMIC PROSPECT

to cater for growing local industry. The Shell-Mex-B.P. depot there is the largest built by the company in the last 20 years. It covers 24 acres and has storage capacity for 150,000 tons of fuel oil, kerosene and jet aircraft fuel, and marine Diesel oil. The installation also provides bunkering facilities for shipping which previously had to draw fuel supplies from the Tyne.

Hull is spending £1,000,000 on a new Riverside Quay for the handling of near Continental traffic, a further £400,000 on the war-damaged portion of Hull Fish Dock, and also promoting the construction of a bridge over the Humber to link East Yorkshire with North Lincolnshire and the South.

The city's development should be further boosted by the completion soon of an £8 million programme for deep drainage and of another scheme (costing about £2,650,000) for the extraction of an additional 8 million gallons of water daily from hidden springs near Driffield.

Further development is to be carried out on the River Aire at Knostrop, Leeds, where British Waterways recently completed a 600-ft. layby for barges, a large office block, mess room and garage. Another stretch of 1,200ft. on the river is scheduled for development, whilst about 6½ acres of ground beside the river have been set aside for the construction of nine storage tanks to be used by the Shell-Mex and B.P. company.

Eventual aim of British Waterways is for a Port of Leeds, costing £250,000.

This sum is only part of a £1,500,000 programme to improve two of Yorkshire's major waterways—the Sheffield and South Yorkshire Navigation (£593,250) and the Aire and Calder Navigation (£955,000). The programme will enable the two water routes which link the West Riding and Sheffield, Rotherham, and Doncaster with the ports of the Humber to offer keen competition to road transport. Construction of one of the biggest locks in Britain at Long Sandall, on the 43-mile long Sheffield and South Yorkshire Navigation will enable 250-ton boats to travel as far as Doncaster. At present the canal is only navigable to vessels carrying up to 90 tons.

Sheffield's water supply difficulties may soon be alleviated by a bold plan to carry water to the city by a 60-mile pipeline from the North Yorkshire Moors through the industrial area of South Yorkshire.

The second phase of the £857,000 extensions to the Barnsley College of Technology has begun. It will be completed towards the end of 1959, at a cost of £176,000 and will be followed by two more phases. Extensions worth £1 million are being made to Huddersfield Technical College. The £350,000 first stage, housing the textile department, is scheduled for completion early in 1959. The £480,000 second stage will accommodate the departments of civil and mechanical engineering, electrical engineering and building. **END**

BUSINESS



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# EXPORT MARKET SURVEY

*A Round-the-World Survey: Country by Country*

## BRAZIL

**B**RAZIL is one of the world's largest countries. Its area of about  $3\frac{1}{4}$  million square miles equals a seventeenth of the world's land surface and exceeds that of either the United States or Australia. Its population of 62 millions comprises half the total for the whole of South America and is growing at the rate of over a million a year.

Of this population about 68 per cent are rural and 31 per cent town dwellers. The middle class, although not large, is growing. In the north the per capita income is as low as £17, but in Rio de Janeiro in the south as high as £208—a figure which is about the same as for Belgium, but equivalent to only one-third the U.S. average.

An increasing degree of industrialization is taking place. During the period 1947/55 industry's contribution to the gross national product rose from 22 to 27 per cent, whilst that of agriculture declined from 29 to 26 per cent. During the same period the index of industrial production soared from 93 to 163. This overall figure includes a rise from 90 to 168 for electric light and power, from 86 to 198 for production goods, and from 94 to 156 for consumer goods. Over the same period the index for farm products rose from 96 to 131.



Activities in which the Brazilian Government is particularly interested at the present time are production of electric power and other forms of energy, transport and communications, warehousing, the settling of new communities to carry on livestock and agricultural production, and the processing and preservation of foodstuffs. The extractive industries are no less vital, and there is a great need for the financial and technical assistance that British business can offer.

The government aims to increase available food production 30 per cent by 1960—a scheme which is not as ambitious as might at first appear, since 25 to 40 per cent of what is produced now never reaches the market. To overcome this paradox, the plan is to increase storage capacity for grain and perishables by 400,000 tons and refrigerated storage capacity by 50,000 tons. This is only a start, however, and the regions that could benefit from similar measures are so vast that they constitute an ideal field for investment.

Another aspect of the same problem is rail transport. The Government is currently laying 1,800 miles of track, but large though this figure is, it represents only 5 per cent of the required mileage. A point to note is that it is not mammoth lengths of track that are needed but in most cases small, unspectacular tracks to get the food moving—tracks which should pay for themselves in a few years.



The per capita electric power consumption of Brazil, per annum, is 170 kw.hr., as opposed to 4,270 in Canada, 2,554 in the United States and 1,000 kw.hr. in the leading European countries. Market conditions and natural power sources in Brazil justify planned expansion of the country's electric power supply, and it is proposed to develop the nation's generating capacity as three networks, to be completed within the next nine years. The first network embraces the systems already operating in the Western Central Region, extensions and improvements to them, and carries the network through the state of Espirito Santo to Minas Gerais in the north and as far as Santa Catarina in the south. Here the steam coal recovered after screening off and washing the more valuable coking coal provides an excellent source of power which can be developed on a large scale.

The second main network comprises the areas served by the Sao Francisco and Contas River hydroelectric companies, and will be extended to include the state of Paraiba, southern Ceara and southern Bahia.

The third network will be made up of the hydroelectric and thermoelectric systems of the state of Rio Grande do Sul.

A possible fourth independent system for the Triangulo Mineiro and southern Goias, based on the Cachoeira Dourada and the Paranaiba River is being considered. In the plan's final stage this system would be connected to the others.

Thus, in about ten years, the installed capacity in the country would be raised from 3 million kw. to 8 million kw. It seems likely, on present showing, that by 1960 2.3 million kw. of this increase will be available for consumption, bringing capacity up to 5.1 million kw.

Brazil possesses high-grade iron ore deposits estimated at 40,000 million tons, or about a quarter of the world's

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## ECONOMIC PROSPECT

deposits, but has not the capital to exploit them fully. The most important deposits are in Minas Gerais. Output rose from about 2½ million tons in 1951 to about 3½ million in 1955. Other deposits exist in the Mato Grosso, Bahia, and the far north.

Huge reserves of **bauxite** in the region of Pocos de Calcas (Minas Gerais), estimated at about 100 million tons, promise Brazil an important future as an aluminium producer and exporter. Smaller deposits already being exploited are at Nove Lima and Ouro Preto, Espirito Santo and the state of Maranhao. Magnesite, phosphates, sulphur, beryllium, and the atomic minerals lithium, thorium and uranium also occur in quantities which are encouraging.

Brazil's **coal** deposits are not particularly high-grade (having a 30 per cent ash content) and therefore require a series of processes to make them suitable for the normal range of uses. But improvements in the methods of processing are likely to increase their value for the thermo-electric power stations in the southern region of the country. A definite project for execution in the near future is the construction of a sulphur recovery plant to process the pyrite tailings from the coal-washing equipment.



In 1939 it was estimated that the total reserves of the Bahia oilfields would be no more than 15 million barrels, but now it seems far more likely to be in the region of 290 million barrels. To this can be added an estimated 20 million barrels from the newly discovered oilfields at Agua Grande and Mota. Within less than a year, therefore, it seems fair to assume that these reserves should enable Brazil to cover over 25 per cent of its current petrol consumption from domestic sources.

Such estimates are further supported by the discovery of high-grade oil in the Amazon basin recently which proved that the Amazon area contains one of the world's richest untapped oil deposits. A test well at Nova Olinda tapped an oil bed of considerable depth last February. Analysis showed the oil to consist of 40 per cent petrol, 15 per cent paraffin and 20 per cent diesel oil. The government allocated some £40 million for further tests to determine the limits of the field prior to full-scale exploitation by Petrobras, who plan to drill more than 300 wells to get production moving.

In 1956 Brazil became self-sufficient in the production of **cement** when her annual output reached well over 3½ million tons. By the end of last year this figure had reached the 5 million ton mark. Expansion in the industry still continues, and in addition to keeping pace with the country's every-growing demands is quite likely to be able in the near future to export a surplus to other South American countries.

END

BUSINESS



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# MARCH OF BUSINESS

## Who is hurt most by a strike?

ALFRED Robens, M.P., the Socialist 'shadow' Minister of Labour, was clearly casting himself in the role of a prospective Cabinet Minister who can be trusted by industry, when he addressed the Industrial Co-partnership Association recently in these terms:

"Strikes are a blunt instrument with all the dangerous propensities of a boomerang. The function of the strike has changed considerably. In the days when the private ownership of industry was widespread, the object of the strike was to do some personal damage to the profitability of a company which also did some damage to the private pocket of the owner.

"But nowadays shareholders are quite remote from the actual management of industry. Therefore the strike does not in fact affect the individuals who are managing in the way in which it may have affected those individuals 50 years ago.

"The managing director's salary goes on as before. What it does do is to hold up orders. It does let down those customers who are depending on delivery of goods at a certain time. It causes investors to be a little chary of investing in any industry which has a long black record of strikes."

There is certainly some truth in this. But if taken too literally it can lead to misunderstanding. For example, to say that some managing directors do not have their pockets directly affected by a strike, does not mean that they are less inclined to resist the strike weapon or trade union demands. On the contrary, a top executive's career prospects are

very closely tied up with the labour relations of his industry and firm.

Nevertheless, it is to be hoped that Mr. Robens' speech will be only the first of many by leading figures in a position to point out the true, boomerang nature of the strike weapon.

When Mr. Robens was thanked for his address, a senior official of the Industrial Co-partnership Association reminded him of the story of the Englishman travelling in the Australian outback who received some assistance from an aborigine and who in gratitude, gave him a new boomerang. Ever since then the aborigine has been trying to throw the old one away!

## Fifty firms display fuel-saving ideas

BRITAIN'S first Thermal Insulation Exhibition is to be held at Earls Court, London, from April 14 to 19. It is being run in conjunction with the 6th Factory Equipment Exhibition.

More than 50 firms and associations will demonstrate a variety of insulating materials and methods.

At a one-day conference on April 17, experts will talk about the implications of the Thermal Insulation (Industrial Buildings) Act 1957, which provides that all industrial buildings erected after January 1 next year shall be regulated against loss of heat to Ministry of Power standards.

## Two ways to get to the top

SOME of the speakers in this month's panel discussion (pages 66 to 71) refer to the problem of the executive who outgrows his job and has no place to go unless he moves to another firm. But what about the other side of the medal—the man with executive talent who never reaches a position of authority because his employers don't recognize his potentialities or don't like the look of him?

This problem is of special interest to Henry Osborne, the Labour M.P. who takes part in the discussion. He believes that in every firm there ought to be more than one way of getting to the top.

He also practises what he preaches.

## Next Month

### Facts for Management

**Results of new study will help management decision-making.**

### Small Firm Uses MTM

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## Managers Take the Strain

*New figures issued by the Registrar-General explode the myth that top executive responsibilities impose too heavy a strain on health.*

*Out of five occupational groups, managerial occupations—including employers, managers and farmers—have the lowest mortality.*

*Their rate is 8 per cent below that for professional occupations, and about 25 per cent below that for unskilled occupations.*

*The figures refer to deaths between the ages of 20 and 64—the normal working years “when the most deleterious effects of a man's occupation are likely to be seen.”*

*Earlier analyses placed professional men in the most favourable position.*

In his own firm—Nu-Way Heating Plants Ltd.—there are two promotion ladders. One is the establishment ladder, which people climb in the usual way by being good at their jobs and having their abilities recognized by superior management. The other is a ‘political’ organization, at the top of which is the president of the works society, who invariably becomes an ex-officio director of the firm.

Says Mr. Osborne: “This is terribly important to individuals whom the establishment hasn’t noticed or has fallen out with.

“If the only way to the top of an organization is by currying favour with a superior, this type of person will feel hopelessly frustrated. But if his talents can be recognized by other people in another way, very often he will climb the ladder and the new responsibility will mellow him.

“This has happened so often in my firm during the past 25 years that I am absolutely convinced that no management can ever spot merit by itself.”

Mr. Osborne’s employees have committee meetings at which they can hold forth as politicians in the firm’s politics. If they are good local politicians their abilities are recog-

nized by their colleagues. “This has a tremendous advantage, not antagonistic to management but complementary.”

The president of the society is elected every two years by suffrage throughout the firm. During his term of office he becomes a full member of the board, carrying as complete and absolute responsibility as any other director.

If he is not re-elected, he leaves the board at the end of two years. But the present president has held office for nearly six years.

When he was elected at the age of 29, he was “rather an awkward employee”. It was a miracle, says Mr. Osborne, that he hadn’t been sacked. Now he is generally recognized as top executive material.

### **New course for top men's secretaries**

A six-day residential course for private secretaries has been introduced by the Office Management Association. The first was completed a few days ago.

The programme included talks and discussions on establishing correct relationships; written and verbal

communication; getting information and making arrangements; personality and appearance; document handling; office aids; training juniors; and delegating work. There were also case-studies and role-playing exercises.

Eight of the 11 speakers were women.

### **Shell use EDP for 'business maths'**

AN electronic data-processing system based on the Ferranti Mercury computer is expected to be in operation early next year at Shell's London office. The company are to use it for ‘business mathematics’ covering all of their activities from exploration to marketing.

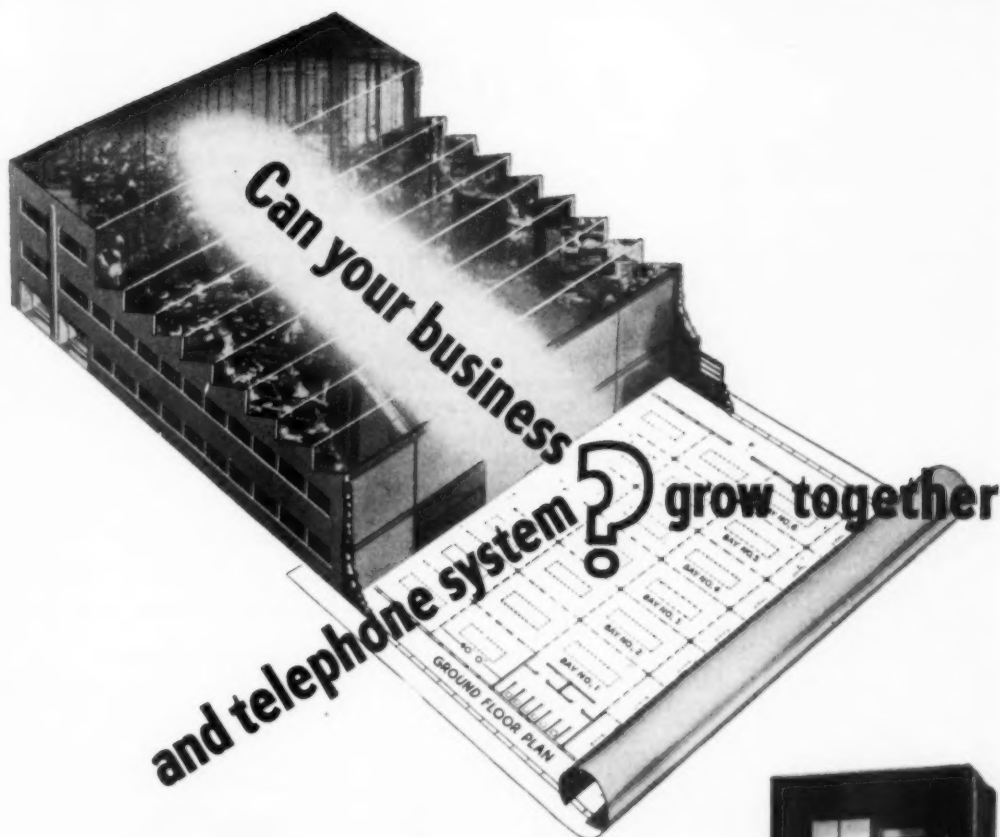
The Mercury is primarily a scientific machine. For this application it will have additional punched card, magnetic tape and high-speed printing units. Shell claim that their new system will be one of the fastest in Europe, and one of the biggest in the world to be used mainly for operational analysis.

For three years they have been experimenting with a Ferranti machine at their Amsterdam laboratories. This, they say, has “demonstrated that computers allied with new mathematical techniques can assist management to decide on the best courses of action in complex situations.”

### **Growing competition for top executives**

WITHIN two years of opening for business, Management Selection Ltd. have a new competitor in Executive Appointments Ltd., (EAL for short). There is room for competition in this field. MSL have more clients than they can handle, and there is a growing realization by company directors that there are advantages in having skilled outside help when arranging senior appointments.

In many firms the personnel officer is not in a position to handle appointments above a certain level—certainly



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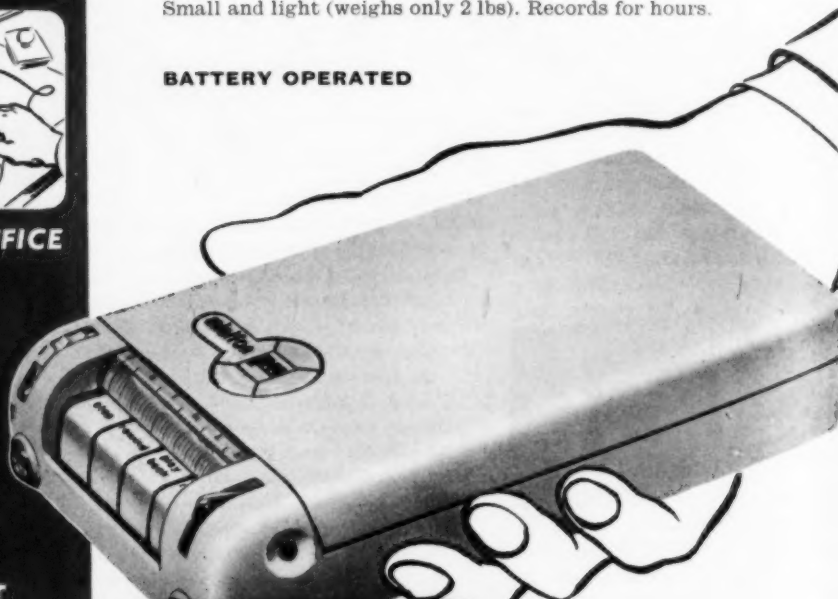
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not above his own level in the organization. And most top executives do not have to make high-level appointments frequently enough to become experienced at doing it well.

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An unexpected advantage of employing an executive selection agency lies in the key question of salary negotiation. An appointments service can build up a fund of knowledge about suitable salary levels, and any candidate who is suitable in other respects but is innocently wide of the mark on salary, can be quietly brought into line before his name even goes to his prospective employer.

## Letters

### Export battle drill: too much bull?

Sir,

Mr. W. R. Mills in his article 'Battle Drill for Export Sales Executive' in your March issue suggests under paragraph 7 that the prospective overseas traveller should draw up a memorandum covering no less than 11 specific points.

To obtain this information from various sources and reference books would take several hours and maybe days. Your readers may like to know that practically all the information which Mr. Mills suggests is necessary under the 11 headings is obtainable from the 'Hints to Business Men'

## PEOPLE PRODUCTS PLACES 1

**NEW-STYLE SALES CONTEST** run recently by Sunbeam Electric Ltd., Glasgow, offered £50 worth of Austin Reed clothes as first prize. Here is winner Graham Knipe (centre) selecting an item—subject to wifely approval.



**LIMOUSINE CONVERSION** on the Morris Oxford provides a chauffeur-driven car with privacy for passengers, but with mobility in traffic and low operating costs. The conversion is by C. G. Norman (Victoria) Ltd., London.



**NO-CASH REGISTER** is used for ticketing prepackaged food at John Gardner's new £100,000 Kensington supermarket. Weight and price of items are registered by the operator. Master key from pigeon-holed rack imprints the description (e.g. 'pork' or 'cheese') automatically. The register enters details on a continuous check roll, but also delivers individual thermoplastic labels. These are placed on a miniature hotplate, and then adhere easily to the packaged item. System ensures accurate stock control—and lets the public know exactly what it is getting.



booklets issued by the Board of Trade. The Board issues these booklets for nearly every country in the world—including most remote and unlikely markets.

I enclose a copy of one booklet herewith and you will see that it is packed with useful information covering practically every one of the queries raised by your contributor under paragraph 7, also much additional information he lists under different headings.

I am more than surprised that a 'consultant with 11 years' experience as senior sales executive overseas' should (a) not have heard of the Board of Trade's booklets or (b) be so inconsiderate as to not mention the fact that a great deal of the information required is today available in the present very handy form.

Also Mr. Mills makes no mention of the valuable services which are available from the one hundred Chambers of Commerce in this country. It is part of the job of a Chamber of Commerce secretary to assist members planning overseas visits. We have ample information on file and when it is not available we can obtain information promptly from official sources thus saving our members a great deal of time and trouble.

We can also provide introductions to Secretaries of Chambers overseas who are naturally *au fait* with conditions in their area and know personally every member firm and can no doubt on many occasions advise the British sales executive who to approach in the firms.

HEDLEY H. GORE, *Secretary*  
Luton, Dunstable and District  
Chamber of Commerce (Inc.)

*Mr. Mills writes:*

Practical experience proves that in addition to examination of publications, time spent on personal enquiry pays off in fuller and more up-to-date information and useful contacts.

The sources of information referred to by Mr. Gore are two of many such as F.B.I. industrial associations, export marketing research organizations and their respective publications, which one can hardly mention by name in a brief article.

## PEOPLE PRODUCTS PLACES 2

DR. W. H. GARRETT is the new British Employers' Confederation president, in succession to Sir Colin Anderson. Dr. Garrett is a director of Monsanto Chemicals and of Metal Industries Ltd. He is also chairman of the confederation's 18-month-old committee on automation.

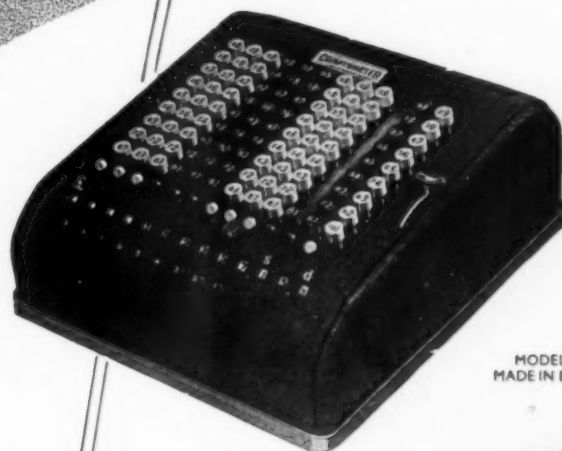


REDECORATION of offices usually leaves out the furniture. But when the Grace Line's London headquarters were re-fitted recently, desks were polished up and given plastic tops, filing cabinets were resprayed, and windows were brightened with terylene net curtains—a low-cost operation giving excellent results. Contractors were Trollope and Sons (London) Ltd.



SWIMMING POOLS costing under £200 are now being made of fibreglass. This makes them a practicable employee amenity for the first time. Standard size is 16ft. by 10ft. by 3ft. 4in. deep, but larger versions are also available. The pools are being marketed by Landscape and Gardens (Wolverhampton) Ltd.

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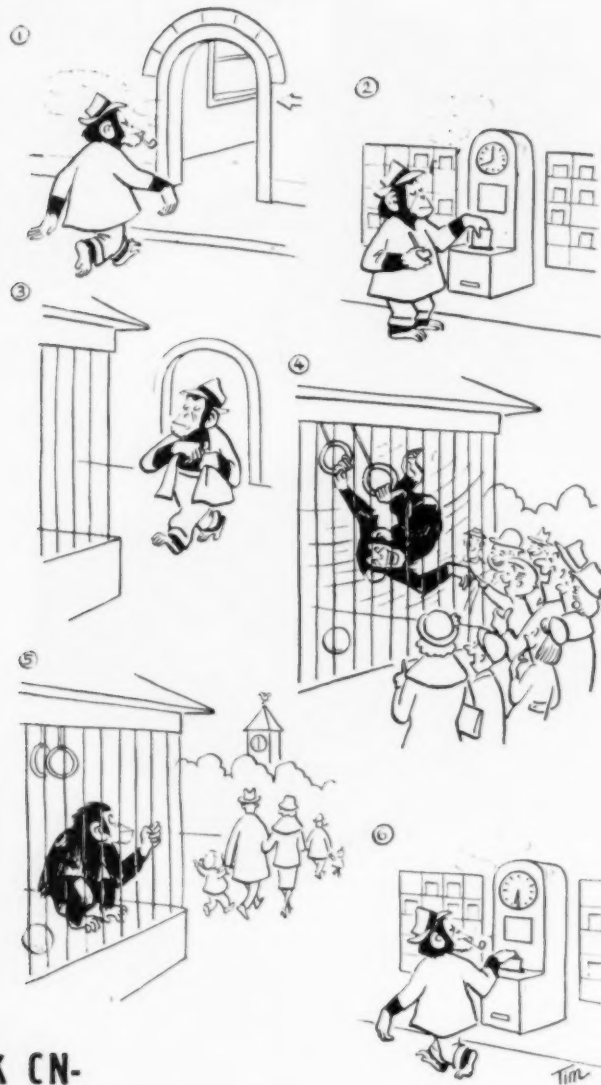
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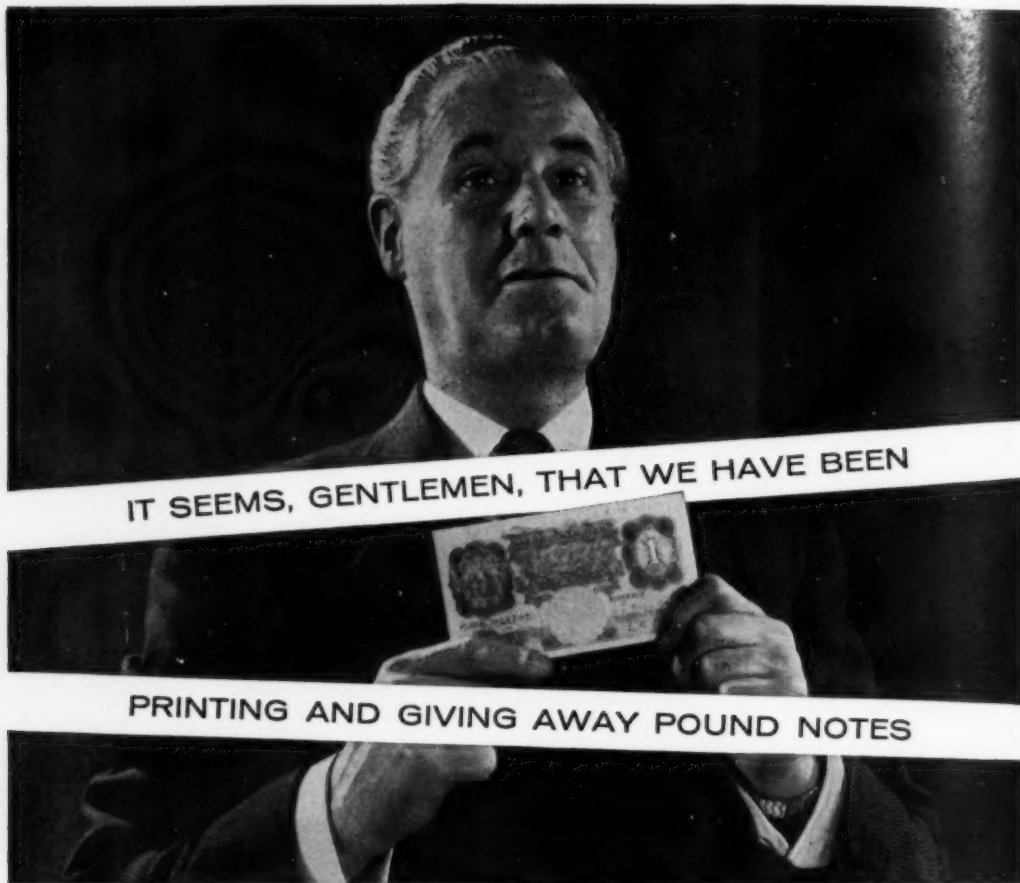
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APRIL, 1958

31



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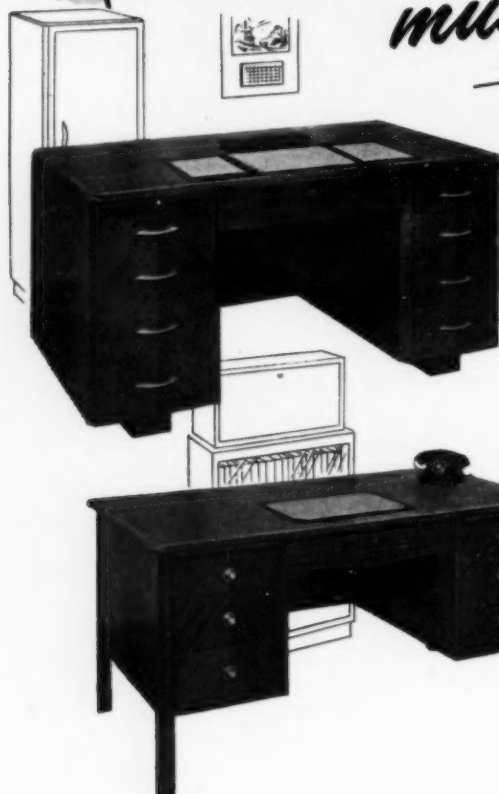
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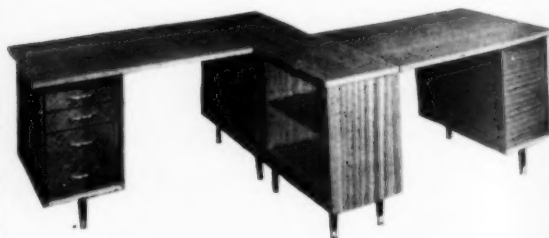
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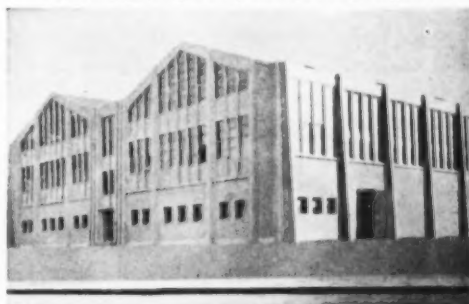
A L, 1958



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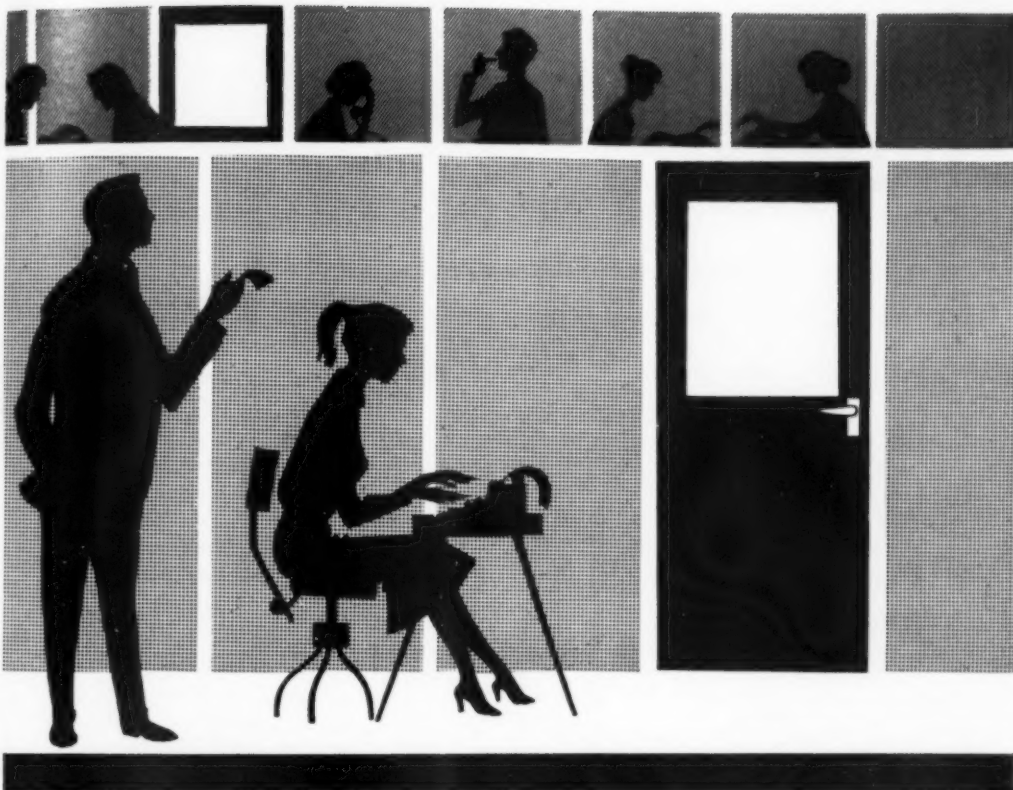
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Telephone PERivale 7481/9.

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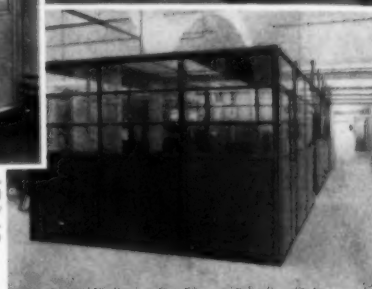
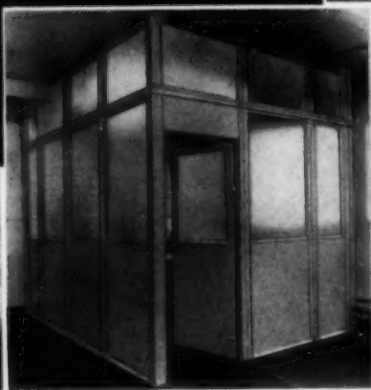
CATALOGUE NO.	TITLE	REELS	HIRE CHARGE*	PURCHASE PRICE	APPROX. RUNNING TIME
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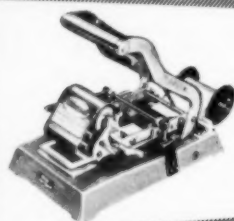
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BRITISH VACUUM CLEANER

## INDUSTRIAL VACUUM CLEANERS

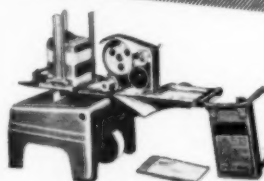
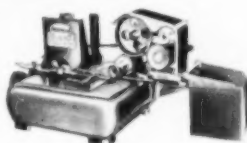
The British Vacuum Cleaner & Engineering Co. Ltd.  
(Dept. 1), Terminal House, 52 Grosvenor Gardens,  
London S.W.1.

# The *RIGHT* machine can save you 90% of your addressing costs!



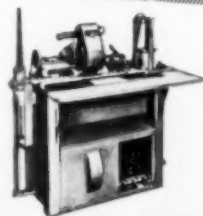
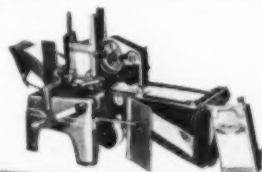
◀ **Single Print**  
for continuous label printing

**Model 65**  
inexpensive rotary addressing machine ▶



**Model 90**  
for addressing Envelopes, Statements, Labels, at 1,000 prints per hour

**Model 135**  
automatically addresses envelopes or cards at 125 per minute ▶



◀ **Model 300**  
for automatic selection, is fitted with sheet lister

But you must be sure it is the *right* machine. That is why Addressall have a full range of machines for every size of business!

As your business expands, you can get a larger machine, but your stencils are exactly the same. Your nearest Addressall representative is at your service to help you select the right machine for the job.

Addressall systems are based on the fibre stencil which is light, clean, and can be typed on your own typewriter with the aid of an inexpensive attachment, providing not only an addressing unit but a recording system as well. This factor, allied with the low capital outlay required, means that the Addressall system is not only more efficient, but less expensive.

We would be pleased to send you an explanatory leaflet, or arrange for an Addressall representative to call, if you write to:

## Addressall

11-13, SOUTHAMPTON ROW LONDON W.C.1.  
Telephones: HOLborn 3571 - 3572

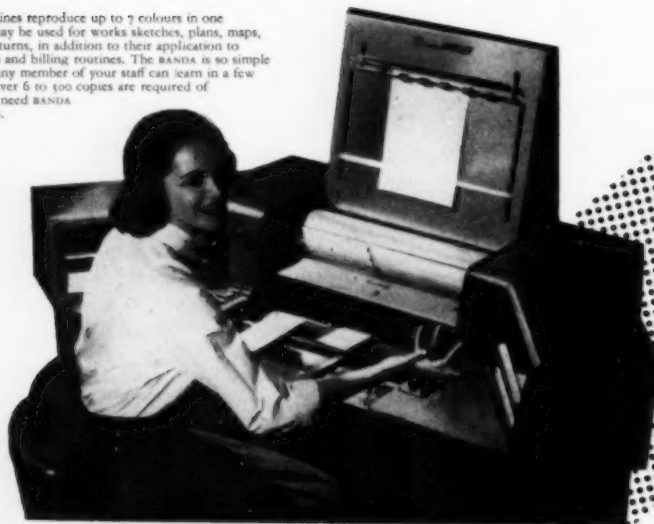
## Put the whole works at your

harmonise  
maximum production, minimum waste,  
planned profits with every hard-won order,  
your finished product delivered and on time,  
industrial counterpoint controlled,  
materials, parts, sizes, costs, timing, dates, assembly,  
multiple variations on a theme  
right at the fingertips of Management,  
*sostenuto* or *accelerando*  
smoothly rendered by a 'Master'.

**BANDA Systems Machines** reproduce from a single 'Master' sheet, every form and docket necessary to control the flow of production and provide accurate costing data, automatically selecting only the instructions and information required by each department or individual.

# Banda — C

All **BANDA** machines reproduce up to 7 colours in one operation and may be used for works sketches, plans, maps, and statistical returns, in addition to their application to your production and billing routines. The **BANDA** is so simple to operate that any member of your staff can learn in a few minutes. Whenever 6 to 500 copies are required of anything — you need **BANDA** in your business.





The BANDA 'Master', once checked, ensures an accurate flow of written information and instructions authorised by Management and Planning.



BANDA requisitions materials, specifies time allowances and target dates, directs machine loading, informs Progress, Cost and Accounts Departments of work in progress and work completed and provides accurate data for mechanised accounting.



BANDA informs and instructs foremen, chargehands and operators only in the operations which concern them. It requisitions the proper tools, records scrap and aids inspection.



BANDA controls the issue of raw material, guides the job through successive stages of manufacture, smoothing the path to final assembly and dispatch.



BANDA provides advice notes, railway consignment notes, adhesive labels, and the final invoice — all these from only one typing.

finger tips

control

The BANDA 'MASTER' METHOD is in use all over the world in Government, Commercial and Industrial organisations of every type, both large and small. The economy, time saving and smooth running of the BANDA 'MASTER' METHOD can be made to measure precisely to the requirements of your own organisation.

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business machines and systems



TELEPHONE:  
CLERKENWELL 5961-2

Save your costs with

*Elliott*

ADDRESSING AND LISTING MACHINES

- PUNCHED CARD AUTOMATIC SELECTION
- DUPLICATE AND SINGLE PRINTERS
- AUTOMATIC SUCTION FEEDS ● DOUBLE COLUMN LISTERS ● WRAPPER ADDRESSERS

Based on the Eliotype NON-METALLIC address card, the Elliott system of data reproducing or name writing will cut costs in every Department.

Wages sheets, clock-cards, pay bags, mailing lists and a host of other applications—all can be served by the Elliott System of addressing—speedily and efficiently with clarity of reproduction identical to that of your typewriter.

## TAYLORS FOR TYPEWRITERS

To many people, the name Taylors is synonymous with the word typewriters. There is a simple reason. Taylors have been selling and servicing typewriters since 1884. They really know the business.

Taylors can give advice without prejudice. They are not bound to one particular manufacturer's products—they are free to sell the make most suitable for your needs.

There are a few good typewriters on the market today and, of course, some are better than others. That is where Taylors expert and unbiased advice is so beneficial to their customers.

After all, the operator wants a typewriter with a light and responsive touch, one that will produce a neat letter. And the machine should be as trouble-free as human ingenuity can make it.

TAYLORS are the people. The next time you require a typewriter, electric, standard or portable, try TAYLORS—HOLBORN 3793. You can have a machine on trial without any obligation whatsoever.

Like every mechanical instrument, even the best typewriter might break down at times. On these occasions you need prompt and reliable service. Again, Taylors are the people.

And it's worth noting that Taylors have a complete Hire Service.

### NEW AND REBUILT TYPEWRITERS

\*For Sale and Hire. First Class Service.

In addition to typewriters Taylors are equally good for adding, accounting and calculating machines. In fact they offer a complete office machine service.



It all adds up to TAYLORS FOR TYPEWRITERS and other office machines.

### TAYLORS TYPEWRITER CO. LTD.

74 Chancery Lane (Holborn End), London, W.C.2. Telephone: HOLBORN 3793 (6 lines)  
and at 83 Queen Street, Maidenhead

Illustrated are examples of the machines we sell and service—the full range is very comprehensive, so consult TAYLORS for all Typewriters and office machines.



**54' LONG  
15½' WIDE  
14' HIGH  
BUILT IN  
17 MAN  
DAYS  
TOTAL COST**



*Two-tier storage installations at the works of Bemrose & Sons Ltd. Printers and Calendar Manufacturers, Spondon, nr. Derby.*

Hard to believe perhaps, but it's true enough! For only £552 this space saving two-tier storage installation was set up in the printing works of Bemrose & Sons Ltd. of Derby. The cost also includes 540 sq. ft. of chip-board. Result—a good job well done, at less cost and valuable production space saved. It's yet another example of a job completed more quickly at less cost because the material selected was Dexion Slotted Angle!

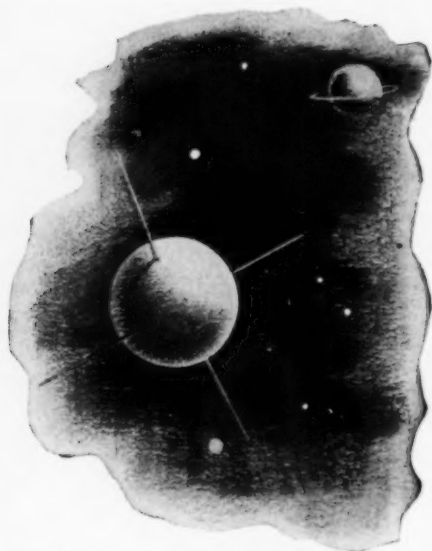
Dexion can be used to construct practically anything—storage racks, work benches, conveyors, maintenance platforms. These sort of jobs can usually be erected by unskilled labour, because 80% of the work is engineered into Dexion before it reaches the customer. All that remains to be done is to cut it to length and bolt it together. Dexion structures are easily added to, reduced in size, moved or dismantled and re-erected in another form. There is no waste with Dexion.

Our practical experience in industrial problems, large and small, is at your service. If you want a really efficient job completed in record time, don't hesitate, write or telephone, CALL IN DEXION.

*It's amazing what you can do with* **DEXION** *slotted angle*



DEXION LIMITED • MAYGROVE ROAD • LONDON • N.W.6 • TEL: MAIDA VALE 6031 (21 LINES)



## The conquest of space

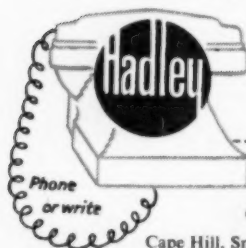
Space travel can be a nuisance and is not always necessary. The shortest distance between any number of points in *your* organisation is a HADLEY 'conquest of space' system.

Space does not allow too much detail of all the HADLEY systems, in any case, *your* problem is particular.

☐ PRESS BUTTON  
TELEPHONES  
☐ LOUDSPEAKER  
INTERCOM

☐ AUTOMATIC  
TELEPHONES (dial type)  
☐ SOUND  
AMPLIFICATION SYSTEMS

Tick the system which interests *you*; just tear or cut out this advertisement clip to your letter heading and *post* to us for full details—without obligation.



*all*  
**For Internal  
Telephones**

**HADLEY TELEPHONE  
& SOUND SYSTEMS LTD**

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'Phone: Regent 2689

MANCHESTER OFFICE:  
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274 Deansgate, Manchester  
'Phone: Deansgate 7164



## The magic mark

— a thousand and one uses —

Every office, every department, every business needs Durathin perfect coloured pencils for graphs, maps, accounts, and all records. Make your mark with a Durathin and create a permanent impression. *Durathin* leads are:

- ★ **IMPERVIOUS TO WATER**  
*not subject to destruction by weather, accidental wetting.*
- ★ **SMEAR PROOF**  
*will not set off or smudge even by contact with moist hands.*
- ★ **EXTRA TOUGH**  
*will not crumble or break even under hard pressure.*
- ★ **SUPER FINE**  
*Can be sharpened to a needle point.*
- ★ **LONG LASTING**  
*Points make thousands of impressions with one sharpening.*
- ★ **MADE IN 24 VIVID COLOURS.**

**VENUS**  
**DURATHIN**  
*perfect coloured*  
**PENCILS**

MADE BY THE VENUS PENCIL CO. LIMITED

# Have You Investigated Edison Tele-Voice ?

Remote-control Dictating introduced first by 'EDISON'

*Edison Tele-Voice saves money and time—it increases production and efficiency*



**Simplicity** is absolutely necessary in a dictating instrument and the Edison Tele-Voicewriter affords it in full measure.

Each TELE-VOICE station is a familiar 'phone-like instrument which is handled just like a telephone. Merely by pressing a button the Executive can record his work, listen back and make corrections in his dictation.

A TELE-VOICE network can contain three phones or three thousand — and stations may be easily re-allocated or added as work loads vary.

Each dictation phone is wired to an Edison TELE-VOICER—the key to any phone dictation system.

Both the central recorder and the new Edison Secretarial transcribing instrument are rugged and built for heavy-duty, all-day use. Their fully-enclosed design assures complete protection necessary for long life and trouble-free operation.

*Let us assist you—telephone or write or call for particulars of Edison Remote Control Dictation—the TELE-VOICER.*

**Thomas A Edison**  
LIMITED

VICTORIA HOUSE, SOUTHAMPTON ROW, LONDON, W.C.1  
Telephone HOLborn 9988

BRANCHES AND DEALERS : Manchester Birmingham Bristol Newcastle Leeds Glasgow Southampton Belfast Dublin J



Many low-cost,  
easy-to-use



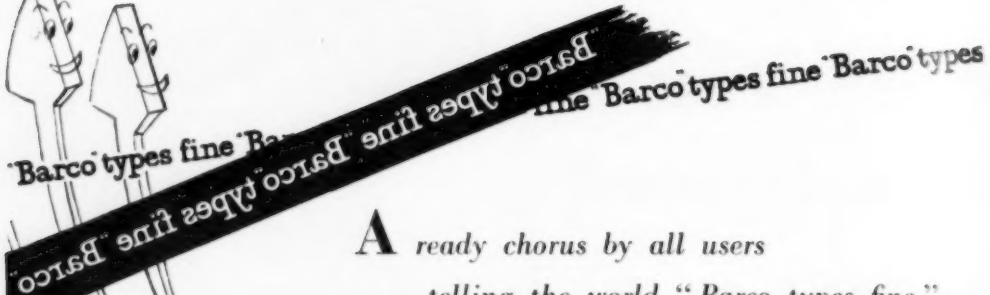
Remote-control  
TELE-VOICE Stations



Connect to one  
single, central  
recording instrument—



the EDISON  
TELE-VOICER



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**for filing  
top capacity  
in less space  
at cheaper cost  
with more  
access and  
speed**



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The FIRST and BEST

The most widely used lateral of all, and justly proud are we of our great leadership in design since we first introduced lateral suspension into the country.

The adaptability of two methods, either of which can be applied to suit the individual need, is one of the great advantages RAILEX has to offer.

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**One desk —**

**or a mile of desking**

**with units from**

**LEABANK**

**Leabank Units offer—**

- ★ Unlimited desking arrangements to suit individual requirements.
- ★ Correct working area in minimum space giving greater economy.
- ★ Uniform appearance in desking with the highest standards of modern office furnishing.

In addition Leabank supply an Executive range of high grade steel Office Desks, Filing Cabinets, Office Wardrobes and Cupboards. Also a complete range of Office adjustable Chairs and Factory seating.

**LEABANK**

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**LEABANK OFFICE EQUIPMENT LIMITED, Clifton House, 91, Euston Road, London, N.W.1.**

April, 1958



# Cheque writing with speed, simplicity and security

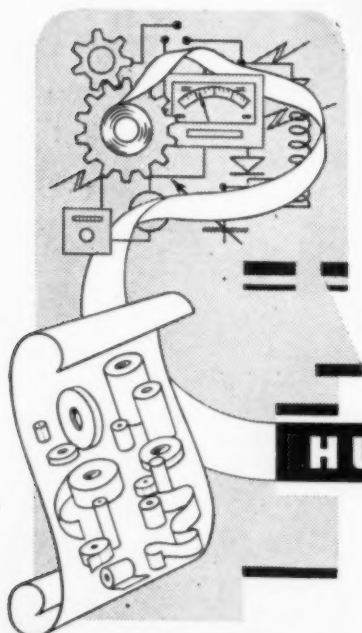
Today cheque writing is quicker and easier with a Protectograph. Clear, distinctive cheques are imprinted both rapidly and safely. All these advantages can be yours . . . Many Government departments, municipal authorities, stores and commercial firms have discovered this way to speed up cheque writing. Have you had details or a demonstration? If not, write TODAY to the address below.



## PROTECTOGRAPH CHEQUE WRITER

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PAPER ROLLS for use with adding, accounting, calculating and statistical machines, electronic computers and cash registers, ticket issuing machines used in transport and entertainment.

PAPER ROLLS plain, printed, perforated and gummed.

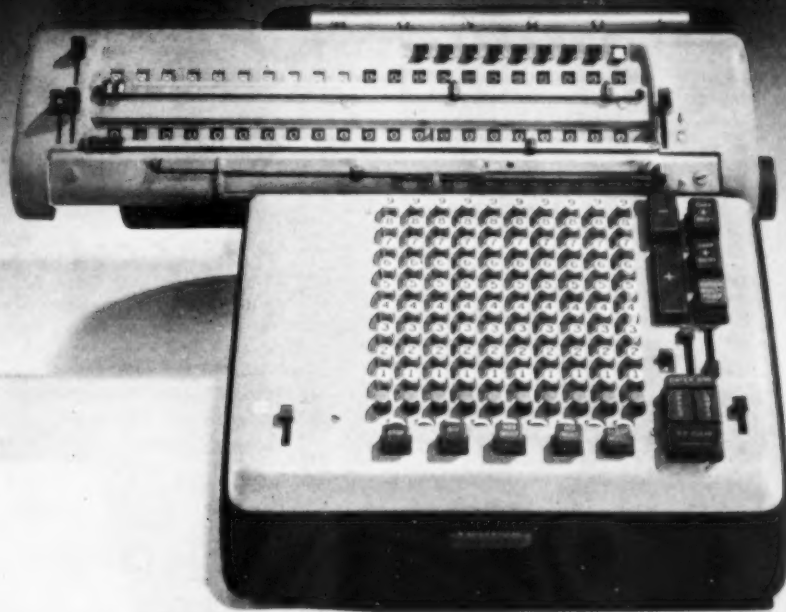
**WE MAKE THEM ALL**

**HUNT & COLLEYS LTD.**

*THE Specialists for every conceivable type of Paper Roll*

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## Effortless figuring



With a Monroe 8N-213 you get all the advantages of a fully automatic adding-calculator. Drudgery disappears from routine figure work and even the most complex calculations become merely a matter of feeding figures and pressing easy-to-select keys. Exclusive Monro-Matic features mean that there is less to remember, less to do, less possibility of human error. Here is a machine that cuts costs and saves time in every department where figure work counts.

**MONROE**

Monroe Calculators range from simple hand-operated models to the world's most advanced machines. With Monroe you can bank on the best advice on choosing and using your machine and the most efficient and reliable after-sales service.

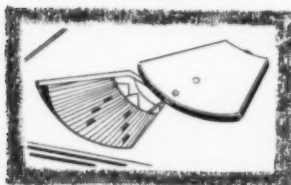
*For further particulars, please write or telephone*

**MONROE CALCULATING MACHINE COMPANY LIMITED,  
BUSH HOUSE LONDON, W.C.2. COVENT Garden 9211**

# ROTADESK



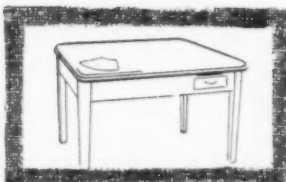
Rotadesk—the modern time saver—has a place in *your* office. It's a desk and card storage system combined. Cards are housed in a wheel *under* the top of the desk and can be quickly referred to through the special aperture—it's easy, so convenient and *compact*.



Available in standard card sizes.

5" x 3" ... 11,000  
card capacity  
6" x 4" ... 9,200  
card capacity  
8" x 5" ... 5,250  
card capacity

*A few of the many uses of the Rotadesk include: Reception desks; stock cards; credit control; stores bin records; time-study value records; works job-ticket stations, etc.*



## EVERTAUT LIMITED

Rotadesk can help *you*—send now for further details to Systems Division, Evertaut Ltd.

**EVERTAUT LTD. (DEPT. S.11), WALSALL ROAD  
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*I've changed  
to Flo-master*

because it  
marks on

## ANY SURFACE

Managers and buyers in works and offices all over the country specify **Flo-master** for all forms of marking because it is the most reliable medium available today.



POCKET  
SIZE

*-and for*  
**STENCILLING**

The King Size for heavy industrial purposes is either used with the normal felt tip or with an interchangeable head to provide a constant feed stencil brush.

There are a hundred and one uses for **Flo-master**.

Fade-resistant inks available in 10 colours.

Interchangeable felt tips provided for different widths of line.



KING  
SIZE

# Flo-master

## FELT TIP PEN

Send for illustrated leaflet

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Telephone: BRixton 0747-8-9

# streets ahead...

## ...printed look with stencil economy

### *design*

Clean functional lines. Choice of four colour schemes. Styled by world-famous industrial designer Raymond Loewy. Solidly built for hard work.

### *performance*

More copies per minute than any other duplicator. Automatic feed plus Cyclovane Control ensures perfect copies on paper of all weights—even the flimsiest.

### *advice*

Free advice on all duplicating problems. "Creative Group" sales letter writing service. Your Gestetner Branch (there are 43 in Great Britain alone!) is your information and advice centre—eager to help you make the widest possible use of your machine and the world's finest range of accessories.

### *service plus*

Gestetner service is always free under the terms of a 5 year guarantee, which includes free replacement of parts—even when necessitated through fair wear and tear.

### *economy*

No bulky drums to store; no pads to dry up. Always ready for instant use.



# Gestetner

## duplicators

For further information on the complete range of Gestetner  
Duplicators and service write or 'phone:

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Beats all records—for filing office records



**Fylemor**  
(Czerniowski's Rod Patent)

**LATERAL  
FILING  
UNITS**

This revolutionary system of filing is rapidly supplanting the use of filing cabinets because it offers much larger accommodation, immediate accessibility, and great saving in cost. One bay of FYLEMOR provides 95% more filing capacity yet occupies less floor space than one Filing Cabinet, whilst by adaptation to our various mobile storage systems, capacity can be increased by 181 to 237%. With FYLEMOR every file comes to hand simultaneously making selection and filing exceptionally easy and foolproof.

The use of standard shelving with rod divisions at 3in., 6in., 9in., or 12in centres is not only most economical but also the most adaptable to individual requirements. The height of the shelves can be adjusted as desired.

Ordinary Manilla Files, X-Ray Films, Case Records etc., can be stored without fear of damage or loss and without the use of an additional container.

Let us tell you more about this revolutionary system of filing—details gladly sent on application.

Visit us on Stand B.106  
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April, 1958

**J. GLOVER & SONS LTD.**

*Specialists in space-saving storage systems.*

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*- these are  
**FINANCIAL**  
times!*

Minutes lost in the morning, at night, at break-times . . . Inaccurate job-timing and estimating . . . Money—your money—being wasted . . .

*. . . time is money*

Accurate time-checking is simpler and less expensive than you might expect. The **Magneta M.16 Time Recorder** can be supplied for independent operation, or to be controlled with other "slave" clocks by a **Magneta Master Clock**. Write to Dept. B for further information.

**MAGNETA**  
TRADE MARK

**SYNCHRONISED TIME  
TO AID PRODUCTION**

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GOBLIN WORKS, LEATHERHEAD, SURREY.

Telephone: ASHtead 8





## As good as 7 typists at your beck and call

Why waste time and money making copies by typewriter of letters, reports, invoices and so on? The Kodak 'Verifax' copier will do the job more quickly than ever you thought possible. It produces up to 6 copies each of 40-50 documents in one day—that's faster than 7 copy typists. The copies are made on inexpensive paper. In normal use the 'Verifax' can save its cost in two months or less. And you know

that every copy is a true facsimile, completely accurate in every detail. Checking is not necessary.

Anyone can learn to use the Kodak 'Verifax' copier in five minutes or less. It is clean, self-contained and takes up little more desk room than a typewriter.

Whatever your business — no matter how big or small, there's room in it for a 'Verifax' copier. Send for details today.



GET A

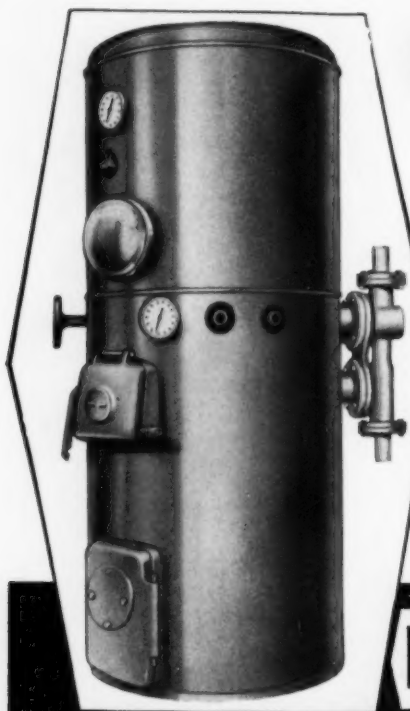
**Verifax**

COPIER

made by **Kodak**

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'Verifax' is a registered trade-mark



## COMPLETELY NEW AND DIFFERENT!

The HOVAL BOILER represents the very latest developments in Boiler design. Operating at the highest known thermal efficiency, it can be used for Central Heating and to supply Domestic Hot Water, or for only one of these purposes. The HOVAL BOILER is a single unit; **no separate calorifier is required.** Compact, convenient to install and economical in operation, the HOVAL may be fired by oil or solid fuels, and the current range covers 60,000 to 800,000 B.T.U.s per hour. The HOVAL design is covered by British and Foreign Patents, and full details of the Boiler may be obtained from A. J. Riley & Son Ltd.

**DOMESTIC HOT WATER AND  
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## Not just a Numbering Machine... ...much more than a Dater

**THE COMBINED NUMBERER  
AND DATER-MODEL 4553**  
prints a date and number  
simultaneously

19.SEP 57 **123456**

Steel engraved Date size 3 mm  
— stylo change

4, 5, or 6 figure wheels  
— automatic change

Sizes available 3 mm, 4½ mm or 5½ mm



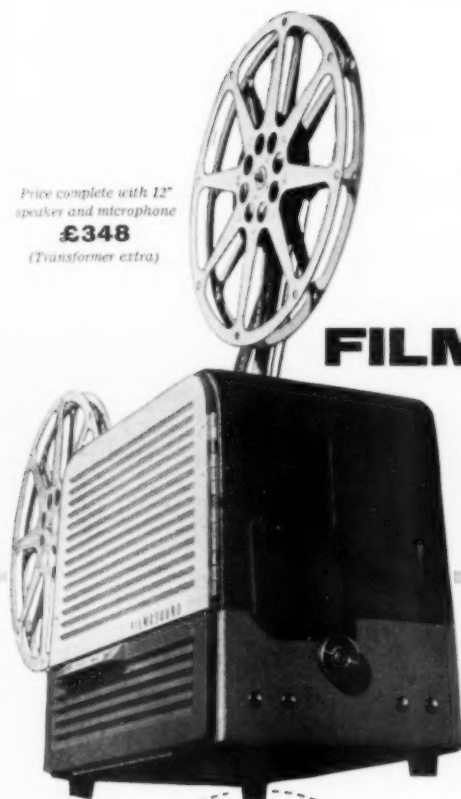
**ENGLISH NUMBERING MACHINES LTD.**  
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Telephone: HOWard 2611/5



# The 16mm. projector that can play back FIVE SOUND TRACKS

Price complete with 12"  
speaker and microphone  
**£348**  
(Transformer extra)



THE FIVE TRACKS  
OF THE '640'

"Five sound tracks?" you ask. "What would I want with five sound tracks?" Well, just imagine: you are in a business where you find it pays to relay information by means of film and sound to various outlying districts or countries. Time was when commentary and additional dialogue for sales/training films, etc. was permanent—couldn't be erased, couldn't be added to. Now with the G.B.-Bell and Howell '640' you can re-record, add music, voice, anything you like—and when you've finished, rub it all out and start again. Imagine the advantages of a machine like that for different dialects and languages! Imagine the possibilities it could have for your business!

## The revolutionary **FILMOSOUND '640'**

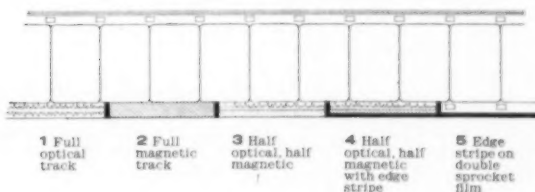
*G.B.-Bell & Howell*

**16mm. Magnetic/Optical  
Sound projector**

### Consider these revolutionary features:

(1) It can be matched to halls of varying sizes and acoustical qualities—for the following reasons:  
(a) A 17 watt printed circuit amplifier gives exceptional power completely devoid of induction hum and distortion.  
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(c) A 750 watt lamp allows projection in large halls. Coupled with the unique G.B.-Bell and Howell variable aperture plate this gives a uniformly brilliant picture in standard 16mm.

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(3) It has two interchangeable magnetic heads (one for 'full' and half stripe tracks—the other for edge stripe).  
(4) You can play back magnetic and optical sound independently or simultaneously.



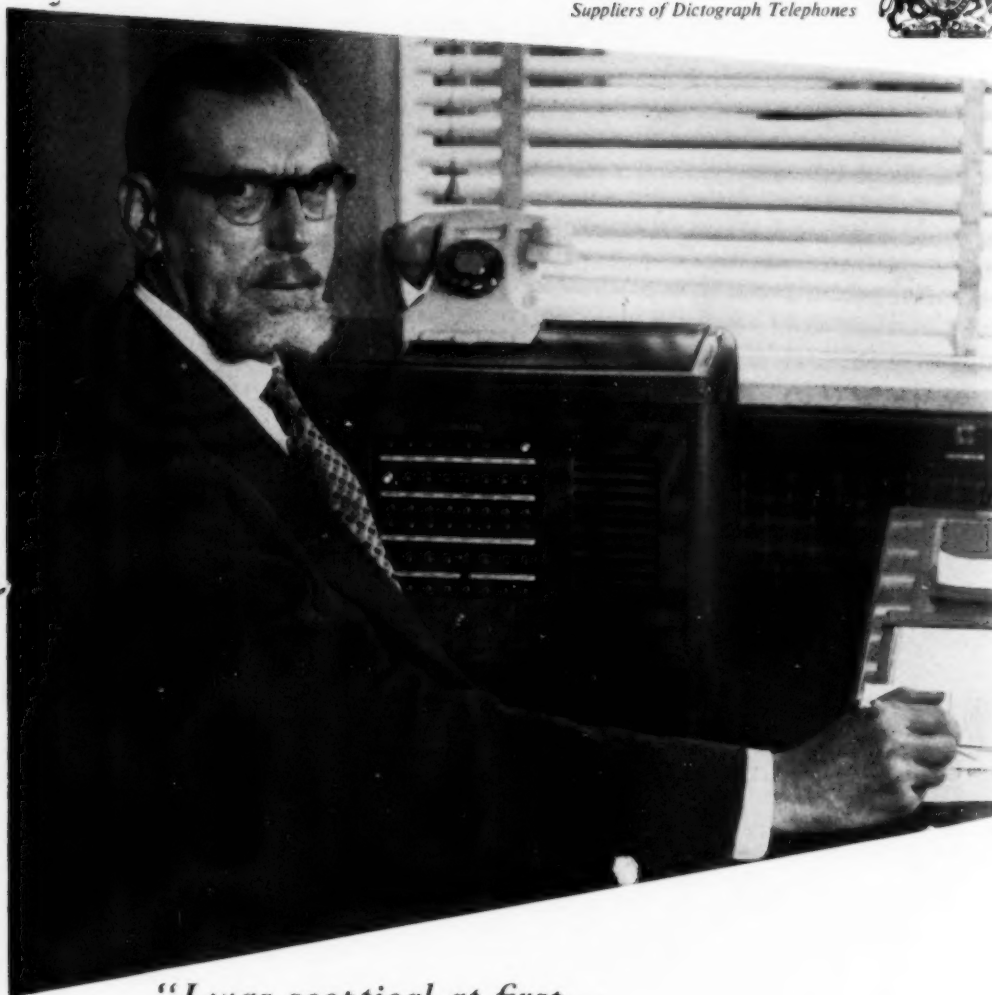
These are only a few of the important features of the '640'—for further details write to:—

INDUSTRIAL DEPARTMENT

**RANK PRECISION INDUSTRIES LIMITED**

CINE AND PHOTOGRAPHIC DIVISION, DEPT. B/4/38 37 41, MORTIMER STREET, LONDON, W.1. MUSEUM 5432

By appointment to  
Her Majesty the Queen  
Suppliers of Dictograph Telephones



*"I was sceptical at first—  
Now I could never manage without Dictograph"*  
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## Is This the Way to End Industry's Phoney War?

THE first sputniks were quickly forgotten: proof that the man in the street has enough confidence in the scientist to believe him when he says that he still has to find a way of bringing them down on our heads. But they created a half-real, half-mythical picture of Russian technical supremacy that is not easily put on one side.

It seemed that the Soviet policy of 100 per cent centralization and state control was getting better and quicker results than the Americans' democratically watered-down version.

Of course, the sputnik was not 'commercial'; in some ways, therefore, it was a bad example on which to hang this gloomy fear. But the same warning began to be sounded in other spheres.

Said Lord Hives, former chairman of Rolls-Royce, in February: "The writing is on the wall . . . it is the British industries who will have to face the challenge, and if the quality and prices of our products are not competitive we shall be out of business. No Summit conferences are going to put that right . . ."

Russia makes sure that the resources of her scientists and technologists are concentrated where she wants them. Is her system right, ours wrong? Unthinkable, of course. Then the only explanation of Russian 'supremacy' is that the Western way of life is working under a self-imposed handicap.

In a new book\* Dr. George Copeman puts a determined finger on this handicap. It is, he says, the phoney war between capital and labour; a war of prejudice fought on a battle-

field which has changed out of all recognition since hostilities began, by people who no longer represent the sides whose colours they wear.

Today the employers and the employees are all mixed up. In many firms the chairman and managing director are employees. And because more and more staff jobs are being created, the interests of 'organized' employees are becoming less and less typical of employees as a whole.

### *Closing the Gap?*

Many people feel that the only way to close the gap between capital and labour is to 'improve industrial relations.' Dr. Copeman dismisses this as "important enough but largely irrelevant," and comes in on a distinctly unsentimental tack. What he says, in effect, is that if the capitalist system is to hold its own, all who strive in it (irrespective of 'class') must have a chance to become capitalists.

He explains: "The gap between capital and labour is closed effectively when, in the typical large firm with fragmented shareholding, the typical long-service employee has built up a holding roughly comparable in size to a typical outside holding."

Dr. Copeman agrees that the nation is still divided into two classes. In his eyes, however, they are not the rich and the poor but those who can accumulate capital and those who cannot.

The basic difference lies in the tax

treatment of the two classes. In this respect one group is much better off than the other. The business-owner can accumulate capital by legitimately spending some of his revenue on things which (like advertising) help his business to grow but simultaneously reduce its taxable profits. There are no tax concessions of this sort for employees.

The book itself is divided into two parts—the Why and How. The second part gives case-history examples of nine types of employee shareholding scheme. A final chapter analyses their good and bad points.

Plenty of people will disagree with Dr. Copeman's opinions; hence the title of the book. Some will argue that his proposed method of calling a truce in the phoney war has already had more than 50 years in which to show its stuff. Others will point to the difficulty of selling employee shareholding to workers who, as the author admits, "automatically close their ranks and become disbelievers when anyone tries to explain to them the real nature of profits and dividends."

But this book is not concerned with employee shareholding as a policy of "enlightened management"—which is generally taken to mean some form of vague charity. The argument is that *everyone* should have equal opportunities to become capitalists.

It is not a question of giving workers a bigger slice of the cake. If Dr. Copeman's proposals were adopted nationally, the direct beneficiaries would include most of the businessmen who will read his book.

\* "The Challenge of Employee Shareholding" by George Copeman, Ph.D. Business Publications Ltd. in association with B. T. Batsford Ltd. Price 18s.



# The Changing Practice

The conditions under which management has to work are dynamic. From time to time traditional ideas and practices have to be re-examined to see whether they still hold good.

**BUSINESS** has launched a new series of round-table discussions to examine the validity in practice of both old and new management principles.

This report of the first discussion deals with three principles :

- ▶ Lines of basic authority and responsibility should be clearly defined.
- ▶ The organization should be developed primarily around tasks, not people.
- ▶ Maintain short lines of communication, so that no individual has reporting to him more subordinates than he can adequately supervise.

# of Management

## **I** Lines of basic authority and responsibility should be clearly defined

RODGERS: In the present stage of development of management theory it is doubtful whether there are any principles at all. We have a series of generalizations built up on experience—at best they are maxims.

USBORNE: Whatever maxim you lay down—and I think a few are necessary so that other folk understand what you are trying to do—you must remember that the inevitable exception is often more important than the rule.

Here is an example. You can't run an industrial company without it being fairly clearly understood by all concerned whose responsibility is what. But it must also be clearly understood that the chief executive or someone at the top should be approachable by everyone.

This is a contradiction in terms. If you encourage too easy access to the man at the top, you make it very aggravating for people lower down the ladder to exercise responsibility. There is no principle to resolve this continual conflict.

COATES: Can a man have two bosses? Should there be more than one person who can reprimand, praise, promote or control a person? I think not.

CONNOLLY: The idea that every

man should know what his task is and to whom he is responsible, gets a good deal closer to a principle than the words: "Lines of basic authority and responsibility should be clearly defined." Responsible for what, though? Responsible for the task or responsible for the man's general behaviour?

RODGERS: Coates really put his finger on the problem when he said that we ought to try and make up our minds whether there ought to be one channel of command as far as the individual is concerned.

CHAIRMAN: That sounds common sense to me. On the other hand, there is Usborne's qualification that the man lower down should have a power of appeal direct to the boss.

PRICHARD: On what types of issue, though?

CHAIRMAN: It is difficult to define them exactly. But I think it would be valuable in many businesses to have it known that there was some power of appeal.

GREENSMITH: May we reduce this to something practical? A is responsible to X, but A has a task which may affect a number of other seniors, including Z. Surely we are not disputing the fact that although A is responsible to X he can go to Z to

## The Panel

### **Sir Oscar Hobson,**

*City Editor, "News Chronicle"*  
(Chairman)

### **Henry Usborne, M.P.,**

*Managing Director,*  
*Nu-Way Heating Plants Ltd.*

### **M. I. Prichard,**

*Deputy Managing Director,*  
*F. Perkins Ltd.*

### **J. V. Connolly,**

*Director,*  
*Sundridge Park Management*  
*Centre.*

### **R. H. Coates,**

*Divisional Controller,*  
*Southern Division, Central*  
*Electricity Board.*

### **Winston Rodgers,**

*Head of Industrial Relations Unit,*  
*Department of Scientific and*  
*Industrial Research*

### **D. S. Greensmith,**

*General Office Manager,*  
*Boots Pure Drug Co. Ltd.*

agree the details of a piece of work? If we stereotype the organization so that every instruction to X has got to go through the line of authority, then we shall make it unworkable.

USBORNE: Aren't there two different concepts—the directing and reprimanding, and the social behaviour and politics of a problem? Then there is the task itself. If a draughtsman has a problem, does he discuss it only with the head of the drawing office, or is he entitled to go to the head of the development department for whom he knows he is doing the job? I say he should go to the head of the drawing office first. He may suggest that they go together to see the development engineer, or he may say, "You have a talk to him." But if the draughtsman habitually bypasses his chief there will be trouble.

COATES: It is more usual for people to make contacts on their own level than through their boss. If you have 50 draughtsmen, they are spending perhaps 20 per cent of their time in consultation with engineers in departments outside the drawing office, and often the chief draughtsman is not even aware of what is being discussed.

PRICHARD: Obviously, anybody in an organization is going to go right across for information, co-ordination and so forth. But we are talking about authority and responsibility, which I understand to be vertical command.

Coates is absolutely right—on a major matter, the draughtsman cannot go to the chief engineer except through his section leader. This is where authority and decisions are required.

He can go sideways, to other departments, as much as he wants, and if his responsibilities are clearly defined, he is covered.

USBORNE: I think you are disagreeing with me. I find myself trying to lay down rules but I am aware that in practice almost every rule has many exceptions. I say the draughtsman should not, rather than cannot, go to the chief engineer; and he ought to understand why he generally should not. Therefore if he does, he knows that he is treading on dangerous ground.

### Sir Oscar Hobson

**In my industry  
you get the best  
results only if the  
individual assumes  
full responsibility  
for a subject that  
interests him**



But it would be a very bad section leader who rigidly enforced the rule.

CONNOLLY: Surely the real point is whether the matter involves policy or procedure. No organization that mixes policy and procedure too rigidly has any flexibility at all.

If the rule we are discussing applies to policy matters, then I think it is a firm principle. But if you try to apply it too rigorously in procedure matters, then I think you get an inflexible system which discourages initiative.

The first thing is to define the firm's policy on major matters, and the things which require co-ordination. If no co-ordination is needed, you don't need anything rigorous in the way of procedures. But if there is something highly co-ordinated, and someone can sell the pass and involve other people, procedures must be tied down pretty rigorously.

CHAIRMAN: You are using two abstract words—policy and procedure.

Can you give examples?

CONNOLLY: Let's take the simplest—the extension of credit to a customer. The firm can determine a policy on that; they may delegate authority to give £10 or £10,000. If a case comes up which involves more than that, there must be consultation—and I regard that as being a matter of policy. But if the sum doesn't exceed the agreed figure, an immediate decision is made, either for or against. That is a matter of procedure.

COATES: It is very easy when there is money involved.

CONNOLLY: I think you can apply it to human relations. You can have a policy, for example, on the level at which a reprimand of any importance can be administered. And you can give definitions, in many organizations, as to when promotion shall be recommended and so forth. Nearly everything is capable of being split up into questions of policy and of procedure.

## 2 The organization should be developed primarily around tasks, not people

CONNOLLY: You will never get a satisfactory organization unless you think in terms of tasks. Of course, people are so important that this principle breaks down in nearly every case. Nevertheless, it is still worth-



**Henry Usborne, M.P.**

**It is more usual for people to make contacts on their own level than through their boss**

**D. S. Greensmith**

**The increasing effect which the growth of specialist departments is having on the span of control is one of the big problems**



while to have a theoretical organization to do the tasks which you want done. If you deviate from this because you have a man with a defect or a special advantage, you should realize that you have deviated from theoretical perfection.

**CHAIRMAN:** In my industry, the Press, I have always found that to give a man his head is extremely important. We are not producing a product which can be measured or strictly defined. There is always a certain amount of space to fill on a certain subject. You have got to leave it to the individual, and you get the best results only if the individual assumes full responsibility for a subject that interests him.

That is, of course, an exceptional state of affairs. By contrast, in a steel works which is highly mechanized, I suppose the machinery dictates the scheme of things. Most businesses are in between.

**RODGERS:** In the main I agree with this principle because an organization must strive to be self-perpetuating. The weakness of the strong-man organization—that is, the one built around the individual—lies in the fact that it is not self-perpetuating. The instant the strong man departs, the whole thing falls to pieces. Therefore, as Connolly has said, we must

strive to build around the task—theoretically at any rate—at the same time considering what material we have available.

**GREENSMITH:** Provided the task is loosely defined, you can still have a job built around a person, rather than around the definition of his task. For example, in journalism, you may have a sports editor and a City editor. Because their contributions are quite different, one man may succeed in making his task more senior in the organization. Surely this is building the task around the person rather than fitting him into the organization?

**CHAIRMAN:** Within limits a successful newspaper can be built on those lines, but only within limits, for you have to provide for all sorts of readers. But the newspaper industry is rather an exception.

**RODGERS:** Greensmith is saying that at any particular moment, depending on the individual that heads the task, it may or may not be the biggest sector of the business. If your City editor happens to have a personality very much superior to that of the industrial correspondent, he may be the prize man. But five years hence it might be the other way round.

On the other hand, you cannot get rid of the purchasing officer or the

cost accountant, though at any particular moment either of them may be much less important than the sales manager. Their functions remain and the firm has to build around these functions.

**CONNOLLY:** Nobody suggests that an organization cannot grow. Any strength that arises from one of the functions, if it increases in importance, requires evolution of the whole organization. But evolution isn't automatic—there are firms which stagnate when a departmental head is not given enough opportunity to reflect customer-demand, because of the rigidity of functional control pressed on the firm from the top.

**PRICHARD:** Isn't that a failing on the part of top management? I go back to Connolly's opening remarks that you must have theoretical organization with the allocation of tasks. Having that, it is then a question of compromise all the time. You see a fellow who is brilliant in one sphere, so you give him a bit of rope. If he builds up his side of the business, there comes a stage when you have to think in terms of a complete re-orientation of the firm. But you must start with a fairly clear idea of the basic organization, so that you know when and how you are deviating.

**USBORNE:** In engineering, you have





#### W. Rodgers

The weakness of the strong-man organization lies in the fact that it is not self-perpetuating

#### M. I. Prichard

Obviously, anyone can cut across the chain of command for information, co-ordination and so forth, but not for authority



to have a map of the various departments of the firm. This has to be drawn around functions. But if an individual shows remarkable initiative and you find that his initiative is being frustrated by the narrow confines of his department, he is ripe for a change. You must make it possible for any individual who outgrows the department in which he has served to move quickly into a department which will give him more scope. The geography stays, but the men change.

CHAIRMAN: Isn't it conceivable that a department could change?

USBORNE: In my company the original geography stays the same, with the occasional hiving-off of sub-departments which to begin with are definitely 'sub' and after a while may well become major departments on their own.

PRICHARD: Rather than transfer a man when he becomes too big, it is generally better to give him his head in the same department.

USBORNE: But there are occasions when this can't happen. For example, there is a limit to the scope of the transport officer. He can only dispatch the products which are produced, though he may be doing it absolutely brilliantly. It may appear

that he is much too good for that rather limited task, and you wonder whether he ought to go to the sales department.

GREENSMITH: He may convince you that it is economical to have the largest fleet of lorries in Britain and do the distribution for every other

company in the neighbourhood!

CHAIRMAN: None of this really disturbs the broad truth of the principle, that the organization should be developed primarily around tasks, not people. But you can put as much or as little stress as you like on the word 'primarily'.

### 3 Maintain short spans of control, so that no individual has reporting to him more subordinates than he can adequately supervise

PRICHARD: What is meant by 'supervise'? I have different definitions for 'supervise' and 'manage'.

COATES: Isn't the statement a platitude? It just says the man mustn't bite off more than he can chew.

PRICHARD: The answer I think is in the word 'adequately'.

CONNOLLY: Generals Montgomery and Eisenhower controlled several million people, but they couldn't possibly do it without delegation, to shorten the span of control. Nevertheless, in certain organizations which shall be nameless you can find as many as 25 senior people reporting to one executive. Clearly that span of control is one which no man can

properly supervise.

CHAIRMAN: Well, how many can he supervise? You may say that 25 is too many.

CONNOLLY: It is impossible to say exactly, but it is much more likely to be the square root of that figure.

COATES: If we use the figure six, and go one, six, 36, 216 and so forth, we find that six levels of command will look after as many as 10,000 employees. But look at any firm in this country of 10,000 employees and you'll find far more than six levels of command. I take as an example one of our own factories, employing about 350 people. There are eight levels of command. Industry as a whole has a much smaller span of





### **R. H. Coates**

**If you have a narrow span of control you have an enormously long chain of command**

**J. V. Connolly**  
**No organization that mixes policy and procedure too rigidly has any flexibility at all**



control than is widely believed.

Surely one of the qualities of middle management and not quite top management is that they don't need supervision. They are self-driving. They need direction but not much supervision.

CONNOLLY: It is impossible to generalize. One good man can probably control 10,000 men if they are all building a ditch. He will probably need only mechanical levels of control to see that they are all working—the co-ordination required is virtually nil. But if you have groups of people designing different parts of a new diesel engine, that needs a lot of co-ordinating. Each man in charge must have a small span of control, while the design is evolving, because the need for co-ordinating limits the span of control to the amount of time a man can spend finding out about the decisions that have to be made.

COATES: In a complicated case like that there is no man who has the knowledge to supervise all the work.

CONNOLLY: Yes, but one man has to co-ordinate it.

COATES: Co-ordinate, but not supervise.

USHERNE: He cannot say whether what each man is doing is right or wrong.

CONNOLLY: He has to say that, in effect. After hearing all the evidence he has to decide which course to follow, because you can only follow one and somebody has to make that decision.

RODGERS: We are discussing a generalization, which depends very largely on the individual and the nature of the activities that he has to control.

COATES: One point we must not overlook is that if you have a very narrow span of control you have an enormous length of chain. So if you functionalize an organization, you find that two people can resolve a difficulty only by going right up one long chain and right down another. In fact it is so laborious that it never happens.

It is better, where possible, to organize people in complete units of about 400 people, so that they don't need to go to anyone else for their decisions.

GREENSMITH: I am sorry we haven't got on to the increasing effect which the growth of specialist departments is having upon the span of control, because I believe this is one of the big problems of modern business.

COATES: This is the old problem of the absence of the generalist. If

everyone is a specialist, then there are no generalists to co-ordinate.

CONNOLLY: Greensmith's point, I think, is based on his firm's endeavour to install a large-scale automatic data-processing system. Before you install one, you have to have a model of the firm. You have to give up sentiment and say, now this is the only source from which this information can flow, this is the only point at which this decision can be made otherwise the mechanism won't work.

CHAIRMAN: You mean to say that such a firm is in danger of being controlled by the needs of automation. They spend several hundred thousand pounds on a computer and forever afterwards are its servants.

CONNOLLY: Not necessarily. They must periodically re-examine the firm's working needs, and where necessary, make a definite change in principles.

CHAIRMAN: In concluding, I would remind you of two sayings. One of them is from Bernard Shaw: "The golden rule is that there are no golden rules." The other is that "All right-minded men have the same religion, but when asked what it is the right-minded man will never say."

I think that's the situation with the principles of management. END

# Flatted Factories

by Philip Marchand

## A new approach to housing small firms



**M**ANY old and dilapidated workshops and factories are pulled down as part of slum clearance and redevelopment schemes. But what becomes of the business that loses its premises?

London County Council and Birmingham Corporation have both adopted the idea of flatted factories.

In London the L.C.C. have built three factory blocks in Long Street, Shoreditch, and project others for Hackney, Stepney and Woolwich. These are four-storey buildings, designed to provide workshop units of 1,200 sq. ft. each. Two of the blocks contain 16 units; the third has 24.

Firms are allotted roughly as much space as they had in their former premises. Floor space is calculated to the nearest quarter unit (300 sq. ft.). The most that any firm may occupy is two units.

Some firms rent only a half or a quarter of a unit and the L.C.C. build separating walls. Tenants remain quite independent of each other, but still benefit from all the facilities of a communal building.

All units have gas, electricity and water services, and toilet and wash-room facilities are on all floors. There are goods lifts in each block, and convenient access for lorries has been provided. There are storage sheds

in the yards behind the buildings and even special cubicles for inflammable materials.

Birmingham has a flatted factory in Dartmouth Street—similar in many respects to the Shoreditch blocks—and another is being completed at Holloway Head.

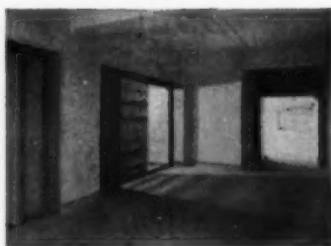
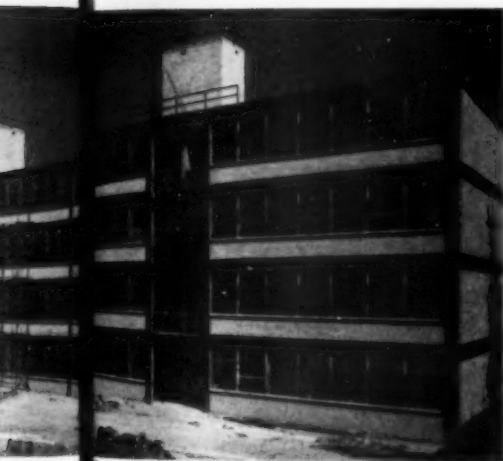
The Dartmouth Street building is eight storeys high, and generous use is made of glass, coloured panels and stone finishes. On three sides there are macadamised yards which provide ample parking space. Two loading bays are next to the goods lift to facilitate loading and unloading.

The firms that will occupy this

BUSINESS

Birmingham Corporation's eight-storey factory in Dartmouth Street combines economy of space with imaginative design

The L.C.C.'s larger block of unit workshops in Long Street, Shoreditch, is nearly complete and will house forty or more firms



Goods handling is no problem with the lift next to the entrance of a unit in the Birmingham factory



A cabinet maker in one L.C.C. block pays twice as much rent as previously—but his amenities are worth it

building will probably be larger than their Shoreditch counterparts, and the workshop units are more spacious, varying between 1,400 sq. ft. and 3,500 sq. ft. or over.

Each unit is connected for all mains services, and the Corporation have fitted small electric convector heaters at intervals around the walls of each unit. A fire alarm system has been installed which automatically signals an outbreak of fire at a central switchboard on the ground floor and simultaneously alerts the nearest fire station.

Rents are similar in both schemes. The L.C.C. charge between 5s. and 6s. per square foot. Similar premises in London would cost about 4s. a square foot more to rent. Even so, tenants find they now pay approximately two and a half times more than for their old premises. In Birmingham charges range from 5s. 6d. to 6s. 3d. per square foot.

The L.C.C. and Birmingham Corporation between them have thought of most snags that moving firms into 'flats' might produce. But other difficulties may arise.

It may become necessary to devise a loading and unloading schedule so that firms will not inconvenience each other by dispatching and taking in goods at the same times.

Firms that wish to advertise their presence by signs may meet with some resistance from the authorities.

It has been suggested that tenants in the Birmingham factory might profitably set up a committee to sort out common problems of this kind.

On the other hand, flatted factories have many attractions:

—Production is easier to supervise when on one floor only. This is important in the small business with only a few operators.

—There is plenty of storage space.

—From the civic point of view, flatted blocks save space, and bring colour and design to the industrial landscape.

END



Five specialists meet fortnightly to cut  
delays in launching new products  
—and to bank ideas for future use

## New Committee Speeds up Expansion Plans

by Peter Spooner

**E**. R. HOWARD LTD., Ipswich, have recently set up a management committee whose only job is to see that new and restyled products get on to the market quickly and smoothly. During the next few months it is going to be pretty busy.

This is because the company are making great efforts to maintain the unusually fast rate of growth which has taken place since their inception in 1948.

Then they had one product and about 20 employees. Now they have

15 products and about 350 employees. These figures have convinced the management that diversification is the best policy!

Their established range includes silicone polishes for motor trade and household use, lubricating oil, demisting cloths, car shampoos, and disinfectants. Many of these products are already leaders in their fields—which means that it is a good time to think about introducing new ones. This is where the committee fits into the picture.

Its five members are the works

manager (who takes the chair), the sales promotion manager, the administrative assistant to the board of directors, the research manager and the chief buyer. Since October last year they have met about twice a month, usually for a whole afternoon. Because of the record number of new products which are being lined up, the frequency of their meetings is continuously under review: individual committee members or senior executives are entitled to call it off at any time.

By setting up this committee E. R.

BUSINESS

A new product is born. In the past its development from test-tube to pack would have taken six months or more. The committee system halves this time



Howard have put on a systematic basis the planning and development work which could be done less formally when the firm was smaller. Expansion has created a need for new methods of management; with two marketing divisions (automotive and household) and about 12 miles between factory and HQ, individual executives can no longer hold all developments at their fingertips.

But the new products committee does more than tie up some loose ends of top-level communication. E. R. Howard believe that it offers

these advantages as well:

**1—Greater speed in developing a product from A to Z.**

The surprise-element is important in their type of business. But some of the preparatory work (for example, the design and manufacture of packs) goes outside the firm. The longer the development period, the more chance there is of whispers reaching a competitor.

There was a tendency, in the past, to allow one stage of the programme to 'crystallize' before starting another. Now the committee fits every

stage into a timetable. Outside work which might give the game away is held back as long as possible; recently, for example, a consignment of new packs arrived at the factory only a few hours before the product itself was due to be dispatched.

Under the old arrangement, the evolution of a product, from formulation to first sales, took six months or more. *Now it takes about three months.* Even if a competitor picks up the scent, there is not enough time for him to prepare a counter-attraction.

**2—More ideas to choose from than in the past.**

All suggestions—however wild—are considered by the committee. Their possibilities are explored before anyone tries to squash them.

In the past, it was generally the research staff and salesmen who suggested new products. The committee system is expected to produce a more varied selection.

**How the Committee Works.** The exclusion of divisional sales managers is deliberate. For one thing, the company try to absolve these executives from administrative work at HQ. For another, they believe that psychologically it is the wrong approach to confront salesmen with half-cooked ideas.

Naturally, the divisional managers are consulted on all matters which concern them. But, broadly speaking, the aim is to keep them out of the picture until the committee has had a chance to reduce a 'wild' idea to a definite proposition.

The managers are not expected to accept automatically. If there are differences of opinion, they have the power of veto. But to emphasize this point would give a false impression of the general atmosphere of the firm. It was never intended that the committee should cut across existing lines of authority or substitute collective responsibility for individual responsibility. The sales managers appreciate this and, in fact, are already convinced that the committee helps them.

The first meetings were largely

*Continued on page 133*



# New Look for Steels

by Peter Lewis



Shells of these flasks are made from thin vinyl sheet bonded to tinplate. Any design can be printed on to the scratchproof plastic surface

**A** NEW material that will give added sales appeal to many products in the near future is plastic-coated steel. It consists of strip or sheet steel bonded with strong adhesive to a polyvinyl chloride laminate.

Like ordinary steels, it can be bent, shaped and deep-drawn. The plastic surface adheres perfectly to the metal; is proof against most acids and alkalis, chipping, scratches and damp; and gives good insulation against electricity.

The coating can be of any colour or design. A wide range of finishes can be simulated, from wood grain to embossed Moroccan leather. So the possible applications of the material are extensive.

Bonding vinyl to steel was first achieved in the U.S. It has been manufactured since 1951 by a number of American firms under licence from the U.S. Rubber Company, who were the first to develop a successful process.

Since 1956 the American process has been exploited by the Belgian firm, Phenix Works S.A., whose licence from the U.S. Rubber Com-

pany covers most European countries. Phenix have sold their product all over Europe, including the United Kingdom.

Research work in the U.K. has produced similar processes:

▶The British Vacuum Flask Company have developed a method of bonding fine vinyl sheet to tin-plate, which is used for the outer shells of their vacuum flasks.

▶Last October John Summers Ltd. announced *Stelvetite*—a trade name for a vinyl-steel material.

▶Work done by the British Iron and Steel Research Association has resulted in the development of a process called *Plasteel*. This has been licensed to three member-firms: Richard Thomas and Baldwin Ltd., Margam Electro Finishes Ltd., and Willmott Taylor Ltd.

At present manufacturers are still experimenting with the steel firms' new materials. Only two or three British firms have begun to use plastic-coated steel in their products. They include the British Vacuum Flask Company Ltd., and W. M. Still and Sons Ltd.

For two years British Vacuum have

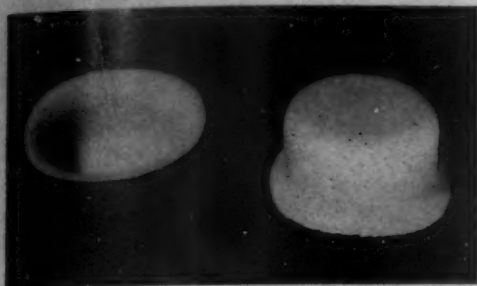
been selling flasks that incorporate their own material. This has many advantages over the printed metal previously used. With plastics, printing techniques are better, and a greater variety of multi-coloured patterns are possible, thus increasing the sales appeal. Further, a finish that is easy to clean, scratch-proof and not slippery is ideal for a flask, and British Vacuum claim they have had considerable success with it.

W. M. Still and Sons—catering equipment manufacturers—were the first firm to use *Stelvetite*. They have incorporated it in the counter of a gas-heated café set.

On the Continent and in the U.S., plastic-coated steels have aroused considerable interest.

**Furniture makers** are using the material called *Marvibond* in the U.S. and *Skinplate* in Europe for kitchen equipment, showcases and shelving.

**Industrial uses** include the interior panelling of French buses and the coaches of an American train, the X-Plorer. These make extensive use of many colours and textures. In Brussels, the road tunnels now under construction are to have decorative



Two cups pressed from Stelvetite demonstrate that vinyl-steel material can be deep-drawn without spoiling the finish

The edges of two sheets can be welded together if a soldering iron with sharpened bit is first used to strip off the plastic



wall panels of vinyl-steel sheets, which have the advantage of not cracking under vibration. It will also be possible to make bins and containers of the material, with the plastic coat as an internal lining, for storing chemicals.

**Interior decorating** is another promising field. The material has been used for wall and ceiling panels in Belgium. Phenix's new offices in Flamalle Haute make use of perforated *Skinplate* for acoustic ceiling panels. Bathrooms and shower cubicles have also been panelled with the material, and it has been incorporated in office furniture and partitions.

**Consumer goods** such as radios and television cabinets, instrument panels and cigarette cases are being made from vinyl-steel sheet.

Working this new material may present problems. Each user has to discover by experiment whether the material will go on his production line without damage. This is already being done by some British manufacturers.

The biggest problem is that of welding. At temperatures above 110 deg. C., the plastic coat is affect-

ed and the finish ruined. Summers, however, have demonstrated one way of overcoming this difficulty; a hot soldering iron with a sharpened bit is used to remove the polyvinyl chloride at the edge of a *Stelvetite* sheet, so that the exposed metal can be spot- or seam-welded by conventional methods to another similarly treated sheet.

Using a special electronically-controlled head that automatically controls pressure, heat and duration of heating, it is possible to weld ties, straps, screws or pegs to the metal surface of vinyl-steel without spoiling the plastic surface on the other side.

However, such problems disappear if manufacturers develop alternative ways of joining the sheets. This may be done by riveting, lapping and folding. Firms who have evolved ways of joining sheet steel that has been chrome-plated or given other finishes while still in sheet form, will probably be able to use these methods for joining vinyl-steel sheet.

To use plastic-coated steel for products that were previously made with sheet steel and afterwards enamelled will increase the cost, though it will

give a superior finish. Prices vary according to the thickness of the plastic coat required, the steel gauge, and the quantities ordered. At present *Stelvetite* is available in four standard colours—red, yellow, white and pale green. With a steel gauge of 22 and a P.V.C. thickness of 0.014-in. it works out about 2s. 8d. per sq. ft. Other colours can be supplied with any embossing required for quantities of 25,000 sq. ft. and over. *Stelvetite* is supplied in sheets of 144 inches by 48 inches.

*Skinplate* is available in a wide variety of colours and finishes, and is supplied in sheets of one metre by two metres.

The plastic-laminated steels that have been produced so far may have one or two minor disadvantages—for example, certain colours of plastics fade in strong ultraviolet light, and the plastic surface will not withstand temperatures much above 120 deg. C. Nevertheless, the advantages of the new material are such that it may well challenge the present use of plastic-on-wood for several products, particularly in the furniture industry.

END



# How to Set up a Sales Force

**G**ROWING companies have growing pains; their selling organizations often suffer from these acutely. That is what occurred at Stanley Works (Great Britain) Ltd., Sheffield, makers of hand tools. Steady increases in production, demand and the variety of lines forced the management to take another look at their selling arrangements.

Ever since their establishment in Britain in 1937, Stanley Works have distributed their products through a firm of concessionaires.

The arrangement was that the concessionaire took Stanley products into stock at suitable terms and distributed them, through his own representatives, to some 3,000 retailers and factors. But as Stanley's output grew, the management became concerned at the cost of doing business this way. So they eventually decided to set up their own sales force.

There were two main problems:

1—Arranging for the change-over to be as smooth as possible, and to cause the minimum disruption to the concessionaire. (The concessionaire is to continue to sell Stanley lines on a non-exclusive basis.)

2—Recruiting salesmen; imbuing them with company loyalty; de-



**Recruiting and training, working out a suitable pay system, establishing good dealer relations—all these were handled successfully by a firm which switched to direct selling**

**by George T. Rae**

ding on the best method of remuneration; working out efficient paperwork systems.

The project was entrusted to the sales director. He visited the parent company in the spring of 1956 and received approval for the proposal. The concessionaire was informed of the decision as soon as it was taken. This meant that he received 12 months' notice of the ending of his contract, compared with the agreed six months. Stanley tools were an important part of his business, so it was only fair that he should be given as much notice as possible.

**Dealer Relations Campaign.** The idea of direct selling had itself to be sold to customers. Stanley had found in the past that many retailers knew little or nothing of their status as manufacturers, or of the growth in production that had taken place.

A dealer relations campaign was launched early in 1957 to put this right. Its main objects were to get the name 'Stanley of Sheffield' accepted by the retailers, and to convince them that Stanley were not being unfair to their old friends.

Their public relations consultants circulated to the technical and hardware Press a clear explanation of what was going on, and received

many mentions. This was supported by editorial releases on various developments—for example, a new hammer factory, and new selling lines.

**Recruiting.** It was decided that Stanley's 3,000 customers (excluding the London area), could be covered by seven salesmen with the following territories: Scotland and Northern England; north-west counties and North Wales; north-east counties; Midlands and South Wales; East Anglia; south-east counties; and south-west counties. Each would have 300-400 customers and make 35-40 calls per week.

Stanley realized that they must get experienced tool salesmen; they lacked the facilities for training a force from scratch. For each territory they wanted a local man, preferably in his thirties. So in November 1956, advertisements were placed under Stanley's name in national papers and the local papers of the areas concerned.

There were more than 250 applications for seven jobs. The company took great pains to select the type of man they wanted: as 'first ambassadors,' the salesmen could either make or mar the new system.

The likely applicants were sent questionnaires. Then about 50 of

them were interviewed by the sales director at local centres as far apart as Glasgow and Bristol. He sought information not only on sales experience, but also on domestic background—for example, whether the applicant, if married, was living with his wife, and whether he owned his own house.

**Training.** After appointment, the seven salesmen were invited to Sheffield for a six weeks' training course. Rooms were booked at a good hotel and all expenses paid. Stanley also paid their fares home at week-ends.

The course was an expensive investment, so it had to be intensive. Its main purpose was to enable the salesmen to talk accurately and coherently about Stanley products. Each was therefore shown exactly what went on in each department—the hardness testing of screwdriver blades, the intricate assembly of automatic screwdrivers, and so on. In each department, the salesmen performed some of the actual tasks involved.

Practical work and demonstrations alternated with lectures by senior staff men about advertising, sales, public relations, production control, order processing, and so on.

The course had a grand finale—a

## High pressure selling was out. The aim was to build up long-term goodwill, rather than start a race for orders

cocktail party and dinner dance. At the company's expense, the men brought their wives to Sheffield to meet the Stanley principals and to be shown over the factory and offices. The object was two-fold: to give the directors further insight into the men's backgrounds; and to let the wives see the sort of people their husbands were working for.

Stanley are convinced that a man's wife must back him and his job completely. He may be absent from home for a week or more at a time. Personal contact between wife and firm helps to make this situation more tolerable; she feels more confident, he more settled. Therefore he is likely to do a better job.

The salesmen reported to the factory on the morning after the party. There they found seven brand new Ford Consuls awaiting them. In the boots, ready packed, were sample cases and stationery. The men and their wives climbed in the cars and drove home.

It was agreed that the concessionaire should continue selling on level terms with Stanley for the next year and a half, so the salesmen went into the field knowing that at first they would be in direct competition with

the concessionaire's representatives.

**'Selling' the Company.** The sales director knew that among the difficulties facing his new force would be—

—a possible feeling in the trade that Stanley had not 'done the right thing' by their concessionaire;

—loyalty to the concessionaire's representatives.

It was therefore impressed on the salesmen that their first few rounds would be in the nature of a dealer-relations operation. They had to explain to customers the circumstances of the change-over and show how Stanley had tried hard to be fair to everyone concerned.

High-pressure salesmanship was out. If the customer preferred to continue giving his orders to the concessionaire, the Stanley salesman would not force the issue. Often a compromise was possible, the representatives of Stanley and of the concessionaire receiving alternate orders.

**Remuneration.** The sales director spent a great deal of time and effort in trying to work out an optimum system of remuneration. In the end

he decided that the simple combination of high salary, plus car, plus out-of-pocket expenses is the most suitable for Stanley's type of business. They wanted men who would stay with them and who would therefore want to know their approximate earnings for some time ahead.

A system of incentives may be introduced later—when the management have worked out a good one. But the last thing they want is high-pressure salesmanship that will unload more on a customer than he can sell and make him distrust Stanley salesmen—and perhaps their lines—thereafter. The aim is to build up long-term goodwill, so that new lines and ideas are accepted.

Postcards are sent to customers a day or so before a salesman is due to call. To put over the concept 'Stanley of Sheffield,' the first batches of cards carried an aerial photograph of the Stanley works. When it was felt that the point had been made, the photograph was changed to one of Stanley's new lines.

**Transport.** A salesman can do good business only when he is feeling at the top of his form. Every Stanley territory is large and long miles





During their six-week training course, the new salesmen did some practical work in each manufacturing department. This was supplemented by lectures and demonstrations

are involved. A small car was considered on grounds of economy but was rejected in favour of a Ford Consul—a medium-sized, comfortable and fast vehicle which (a) gives a man maximum time with his customers and (b) is more in keeping with the company's standing.

**Expenses.** For the first week, each salesman received a 'float.' Every week he completes an expense sheet stating hotel, car and entertaining expenses, and also cash in hand. The firm send him a weekly allowance based on his cash in hand and his likely expenses during the following week.

**Communication.** The order form comes first in a list of 32 different items of stationery which a representative takes with him. Much of the stationery was designed by the company themselves.

All envelopes are pre-printed with the company's name and address. Where possible, 'no-carbon-required' stationery is used, to save the salesman the trouble of fumbling with carbons.

He carries a file of record cards,

one for each customer, showing the type and volume of Stanley goods normally bought. Such information has been collected from copy invoices, over a period of several years; previously, it was used only for statistical purposes.

Also in his 'kit' are a few small cotton bags for returning to the factory any small parts which may have caused complaint. A small point—but they build up goodwill in that salesman and customer are regularly reminded of the Stanley guarantee.

**Results.** These are hard to assess, because of the newness of the venture. All that Stanley claim is that sales of established lines have certainly been maintained; and that new lines are going very well.

The frequency of calls is about the same for the Stanley representative as for those of the concessionaire. It varies between about once a week for customers with a very high turnover, to once in two months, or longer, for the smaller ones.

**Reports.** The concessionaire's representatives were always extremely keen 'Stanley men,' and sent back

reports of customer reaction, competitors' activities, and so on. Naturally, Stanley have even closer contact with customers through their own men. To exploit this on-the-spot knowledge, sales conferences are held from time to time during seasonal sales fall-offs. Even then the representatives can ill be spared from their territories, so the conferences are brief and intensive. One was held last September and another at Christmas.

Considerable preparation is required to get the best from them. The sales director outlines new plans—for instance, the marketing of kits of tools; the salesmen give their views. Salesmen also learn about each other's territories and problems. Sometimes they cannot digest at one time everything that goes on, so verbatim minutes are taken and edited. Conclusions are added by the sales director, and copies are circulated with the reports for the men to think over when they have more time.

The Christmas conference was followed by the company dance at which the salesmen joined the directors at their table—an assurance, if any were required, that Stanley regard them as very important people indeed. *END*

## BUSINESS BOOKSHELF

**THE SOURCES OF INVENTION** by J. Jewkes, D. Sawers, R. Stillerman (Macmillan) 31s. 6d. net, 33s. post paid. Professor Jewkes of Oxford is well known as one of the most individualistic of economists. He is therefore well suited to lead a team studying the causes and consequences of industrial innovation. The authors are concerned to investigate whether the greater number of useful inventions come from individual effort or from the group effort of companies, university laboratories, trade associations or Government departments; whether it is possible to predict the course of scientific and technical discovery, and plan to have more of it of the right kind. They find, after examining closely the history of invention in the 19th and 20th centuries, that inventions come from a very wide range of unpredictable sources, and that many of them take the world by surprise, while on the other hand many expected developments prove disappointing. The individual is, moreover, still playing an important role.

The authors are thus led to conclude that "institutionalizing" can easily reach, and has perhaps reached excessive lengths. The individual inventor needs more encouragement, particularly by tax concessions. They are, however, perhaps too pessimistic about the damping effect of institu-

tionalism on individual effort. Against every member of an "institution" who can fairly claim that his superiors damp his enthusiasm, it might not be hard to place at least one head of an institution who complains that his staff do not have enough ideas of their own. Clearly there is room for further research into the direction and quantity of flow of ideas within institutions—whether companies, universities, or Government departments.

**THE LEGAL FRAMEWORK OF WORLD TRADE** by V. A. Seyid Muhammad (Stevens) 42s. net, 43s. 3d. post paid. While inevitably concentrating on the Geneva Agreement on Tariffs and Trade, this legal text also covers other international facilities and hindrances to trade, such as the European Economic Community, the International Monetary Fund, anti-dumping subsidies, quantitative restrictions, exchange control and state trading.

**MOTIVATION RESEARCH** by Harry Henry (Crosby Lockwood) 30s. net, 31s. 3d. post paid. After the excitingly-readable accounts of how American firms have been commercially exploiting people's more primitive emotions, as described in "The Hidden Persuaders" by Vance Packard, reviewed here in December, Mr. Henry's more sober textbook on the techniques

of motivation research gives a better balanced picture. The author is research director of McCann-Erickson Advertising, London, and this is one of the first objective books to explain clearly the limitations on traditional methods of market research, and the need for digging deeper, to discover the basic preferences of customers, including the preferences and objections which they do not admit or do not even recognize.

**HIGHER MANAGEMENT CONTROL** by T. G. Rose and D. E. Farr (McGraw-Hill) 49s. net, 50s. 6d. post paid. The well-known pioneer British writer on management accounting techniques has been teamed up with the vice-president of the American Methods Engineering Council to produce, primarily for the dollar reader, a restatement and refinement of Mr. Rose's system of control of a company. The system involves the chief executive in watching certain key indicators. The reader is taken logically and simply through these various key figures for watching the trend of sales, production, profits and the financial position.

**THE ADVERTISER'S ANNUAL 1957** 50s. net, 52s. post paid. Over 1,000 pages of classified details on newspapers, magazines, outdoor posters, TV and films, advertising agents, advertisers' services and supplies, leading advertisers, and Commonwealth and foreign advertising media. This is the 32nd edition.

**OFFICE ORGANIZATION AND METHOD** by G. Mills and O. Standingford (Pitman) 22s. 6d. net, 23s. 9d. post paid. Second edition of a book for office managers, covering all the fields of activity that they are likely to supervise. It is particularly useful on the more standard, common subjects, such as typing, wages and staffing, but the moment it touches on subjects like filing, production control and stock control, its value is more limited. For the needs of an office organization in these respects vary so much with the nature of the product, how it is produced, and how it is sold, that examples given under these headings can be almost meaningless to so many firms.

**INTER-FIRM COMPARISON** An Incentive to Productivity (H.M. Stationery Office) 24s. net, 25s. post paid. The papers delivered to the International Conference on Inter-firm Comparison in Vienna, September 1956. A wide range of industries, including railways, electricity generation, shoe manufacturing, wholesale and retail trade are covered in specific case studies.

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# How to Prepare for Your Trip Abroad

by W. R. Mills

Second of a series of articles written  
of overseas travel and sales  
consultant with 11 years' experience  
for BUSINESS by an experienced

**A**S the thoroughness of your briefing will help substantially towards the success of your journey, so will carefully planned personal preparations pay a worthwhile dividend in comfort.

**Money.** Your first consideration must be money. As soon as you receive your preliminary instructions, apply for your necessary foreign currency through your company's bankers or your travel agent. Exchange control regulations will restrict your allowance for certain territories, but for others you will not be limited.

It is better to take with you more funds than you require than to risk running short on your journey. A useful yardstick is to take the maximum allowable for countries subject to restriction, and funds to the equivalent value to countries to which no limit is applied.

The most convenient form in which to take out funds is travellers' cheques, which can usually be cashed at any bank, *bureau de change*,

or travel agent, or by most hotel cashiers.

Take cheques of reasonably large denominations in order to save commission payable on changing, which is usually charged at a flat rate per cheque. Take also a little currency for each country, which will be useful for tips and taxi fares, etc., on arrival.

**Health.** Apart from your various inoculations, you must consider your general health. A day lost through sickness abroad will not only be costly, but may disrupt your entire itinerary. Therefore, as a precaution, collect a small supply of preventative drugs and 'pick-me-ups.' What you take depends largely on you and your journey. For example, a typical range for a trans-African journey would be: salt tablets, prickly heat powder, anti-malarial tablets, and an anti-dysentery drug. Your company's doctor will advise you.

**Clothing.** Clothing requires careful

thought. To take too much is burdensome. To travel too light will necessitate spending on clothing money badly needed for everyday expenses.

Before assembling your wardrobe, get advice on what you will need, not from outfitters, but from people who have resided in or travelled through the countries on your itinerary. If you work on the assumption that you can get suits pressed and linen laundered once per week only, you should be able to judge the quantity required fairly accurately.

Take appropriate evening dress kit. It can be very embarrassing on the journey to have to turn down an invitation to some official function because you have not the necessary dress. Hiring facilities exist only in advanced countries.

Take presentable but light luggage which locks securely, and label on the inside as well as on the outside.

**Visiting Cards.** You will require  
*Continued on page 134*

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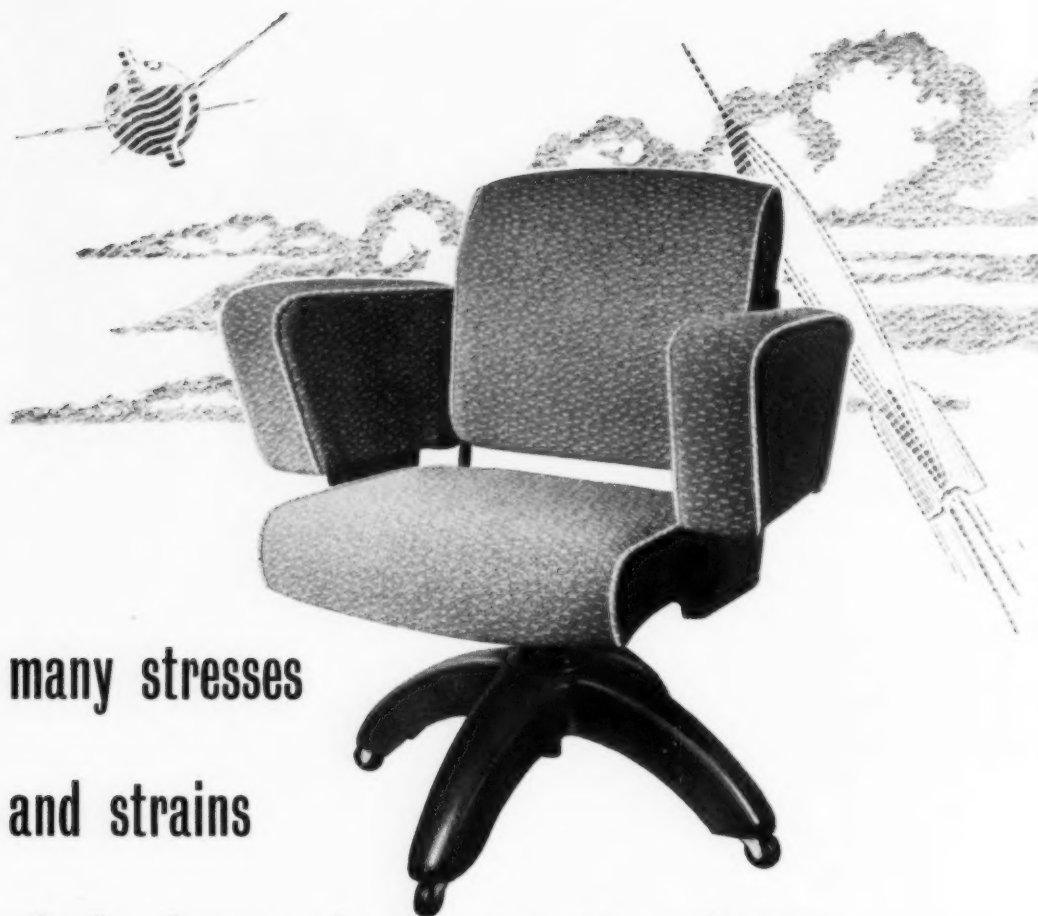
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**A big redundancy problem faced Kraft Foods when they had to move factory. But skilful planning helped them to maintain both production and prestige**

# **How They Sacked 1,300—Without Losing Goodwill**

**by William Guthrie**

**K**RAFT Foods Ltd., Hayes, Middlesex, have just completed an unusually difficult operation. It arose last year when they had to declare redundant about 1,300 employees.

The skill and generosity with which they dealt with this situation have earned them praise in the House of Commons, from the local employment committee and from the employees' trade union.

Paradoxically, the redundancies

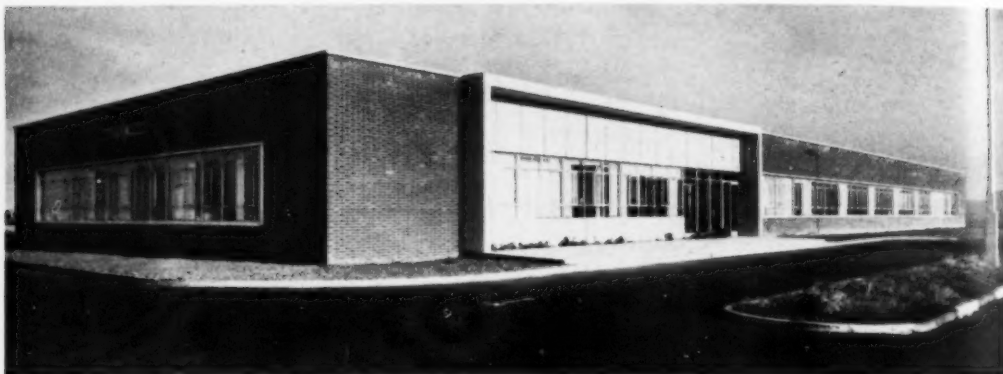
were caused by the firm's rapid expansion, which has forced them to move to a new area.

The company started production at Hayes about 30 years ago. By 1939, turnover had increased to such an extent that more space was needed. The war and rationing delayed these plans; production had to be completely suspended until 1952, when there was again a pressing need to extend production facilities.

Kraft wanted to build an extension

to their existing factory, but permission was refused by the local planning authority on the ground that Hayes was already heavily industrialized. The company then asked the advice of the Board of Trade, who suggested several sites, all outside the London area.

Kraft eventually chose a site in a district of Liverpool where there was room for further expansion, and where unemployment was far above the national average. The choice set



**Because of Liverpool's acute housing shortage Kraft could take only about 50 key employees to their new factory. But any who could arrange their own accommodation were assured that they would be considered for re-employment**

them two extremely difficult tasks:

- ▶To help the Hayes employees to find new jobs, and to award compensation where merited.
- ▶To co-ordinate the run-down of production at Hayes with the build-up of production at Liverpool.

They had no experience of redundancy to guide them; previous lay-offs had been purely seasonal and had affected only temporary employees. A policy had therefore to be worked out from scratch.

The date for the move to Liverpool was tentatively fixed for early in 1957. Almost as soon as the decision was taken, rumours were rife. There was a danger that uncertainty about the future would spread throughout the factory and affect production.

Kraft knew that it was essential to give employees the full facts. But for a long time they did not know the full facts themselves. Bad weather held up work on the new factory, making the completion date uncertain. A programme had to be worked out for transferring the very heavy processing machinery from Hayes to Liverpool. An additional complication was the high summer demand for their products, which entailed an increase in the labour force just before production had to be stopped at Hayes. Moreover, Kraft had only

recently gone over to a new direct selling system, and this made it difficult to estimate required production.

The situation crystallized in March 1957. The company estimated that small-scale production could start in Liverpool in May 1957; and that the transfer would be complete by December, when the Hayes factory would close. They also decided that the facts could now be presented to employees.

At their annual dinner—held towards the end of March—the managing director talks about the company's progress. He therefore took this opportunity to explain briefly:

- how production would be transferred;
- how employees would be helped to find new jobs;
- what compensation would be paid;
- why there would be work for many employees after the move started—probably until December.

The broad principles laid down by the managing director were:

**Hourly-paid workers** would get four weeks' notice. Once an employee had been given notice, he would be free to leave any time. If his notice were temporarily suspended during the first four weeks, an additional four weeks' notice would be given.

And, generally speaking, it would be a case of 'last in, first out.'

The obvious danger was that even before notice was given, many workers would find new jobs and leave. No department would therefore be able to rely on having, from one week to the next, the requisite working teams.

To meet this difficulty, Kraft decided to offer two kinds of incentive payment:

1—*Reward for staying on*: a percentage of all earnings, including bonus and overtime, between May 6, 1957, and date of termination. Payments were easily calculated from P.A.Y.E. cards.

2—*Service payment*: one half week's pay for every completed year of service, including war or National Service.

These payments would be made to all employees who remained with the firm until given notice. To qualify, they would have to be prepared to work at different jobs or in different departments, if necessary. Payment would be at their normal rate or at the rate for the job, whichever was higher.

**Staff** were offered the same 'staying

*Continued on page 91*

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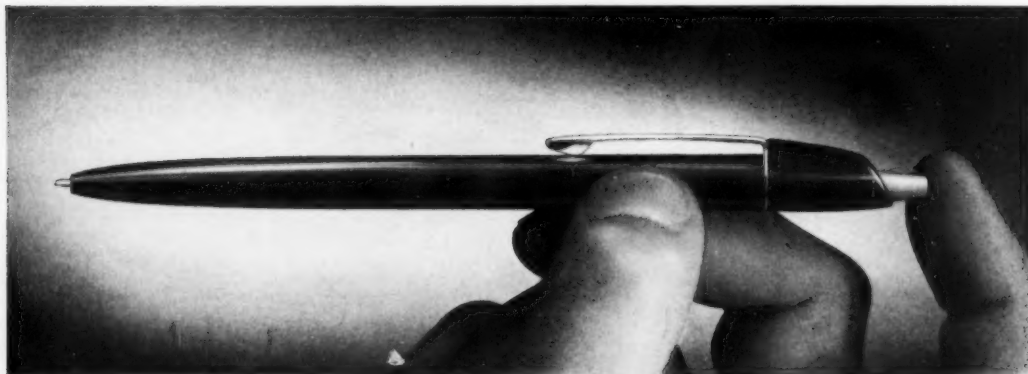
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—withdrawing contributions to date, less tax;

—accepting a reduced pension, payable at normal retirement age, and based on the amount of contributions;

—continuing to contribute direct to the insurance company;

—in cases of older employees, accepting a modified pension, based on an earlier retirement.

The area representative of the union concerned—the Union of Shop, Distributive and Allied Workers—was consulted. After a ten-minute interview, he not only expressed satisfaction with the company's proposals, but also spoke of their generosity.

Then a statement was issued to the three local newspapers. It described the redundancy terms and explained that 40 or 50 key workers would be transferred to Liverpool and provided with houses. (Many more would have been taken but for Liverpool's specially acute housing shortage. But employees were told that anyone who arranged his own accommodation would be considered for employment in the new factory.)

Simultaneously, the local employment committee was informed of the situation and its help enlisted. (The company's personnel manager was a member of the committee.) It was decided that an office of the Ministry of Labour should be set up on Kraft's premises. Employees could attend there for interviews during working hours and, if necessary, be interviewed by prospective employers.

The local council was also kept informed of developments. Then came a bombshell: a nearby company announced that several thousand workers would become redundant. The situation for Hayes and district was serious. The council expressed alarm and called a public meeting. Local M.P.s expressed their concern

APRIL, 1958

## How they 'Sold' the Redundancy Scheme



1. Consulted union representative. He was soon convinced that Krafts were doing the maximum for their employees.
2. Offered the Ministry of Labour and prospective employers facilities to interview employees during working time.
3. Gave local newspapers full details of the redundancy scheme as soon as it was possible to publish them.
4. Told all employees the facts right at the start. This avoided rumours and a panic rush to find new jobs.

in the House of Commons, but praised Kraft for their considerate attitude.

**Results.** By December, there were few Kraft employees who had not found new jobs in the area. Because of the facilities provided, many were able to fix up jobs without even leaving the premises for an interview.

Kraft managed to get the Hayes factory taken over by another food-processing company who have given jobs to many ex-Kraft workers.

In the event, the labour force was larger by 120 in June than in March, due to the taking on of additional employees. After the managing director's March statement, labour turnover did increase beyond its normal level. But Kraft reckoned that the increase was very small, taking into account the circumstances.

The redundancy plant cost Kraft a large sum of money—five per cent of the annual wage bill—but they considered that it was well spent. It enabled production to be maintained and retail shops to be kept supplied at a critical period of high seasonal demand, when failure to do so would have caused loss of goodwill. The transfer of production, including the moving of several heavy machines, was accomplished smoothly over six months. And Kraft left behind them an atmosphere of goodwill which enhanced their reputation as an enlightened employer.

*New Dawn*, the organ of USDAW, ran a story complimenting the firm; and the local employment committee wrote to the company to say that the 'whole operation could well be taken as a pattern for other employers in a similar position'. END

# MANAGEMENT AT WORK

IDEAS AND ACTIONS OF PROGRESSIVE FIRMS

## Their shareholders get simplified annual accounts

FOR the second year in succession, **Charles Winn and Co. Ltd.**, Birmingham engineering firm, have sent out an unusual balance sheet with their annual report. Here are some of its highlights:

1—'Reserves' are eliminated. Instead, shareholders' capital is shown under the three headings: 'Issued and fully paid share capital'; 'share premium account' (representing the cash difference between par value of stock and actual issuing prices); and 'earnings retained in the business.' Cash retained against income tax liabilities is shown separately.

2—All current liabilities have been deducted from 'Current Assets' so that the 'Net Assets' figure is truly realistic.

3—There is no figure of profit (or earnings) after taxation. The company feel that what matters is their *earning capacity*, and this is best shown as 'earnings' or 'amounts receivable.' Whatever tax may be payable on this sum is only one use to which earnings are put. In any case, say the company, the 'taxation' figure must necessarily be an arbitrary one, as the exact amount cannot be determined in advance.

The dividends payable on ordinary shares are shown as 'net'—in other words, the full sum which the company will pay out, whether to shareholders or to the Inland Revenue.

Object of these simplified accounts is to make things easier, not only for the shareholder who is no accountant, but also for "others to whom the directors may additionally wish to appeal: namely, the company's employees . . . and their representatives, both local and national."

## Cut-price idea speeds order processing

THIS system for coping with orders has been introduced by **American Wholesale Co.**, Chicago.

▶ Each customer is represented by a master card in the main file. Certain information (such as credit rating, type of customer, etc.) is punched in by hand. But name, address and account number are typewritten.

▶ The typewriter on which this is done has a hecto-

carbon backing roll. This makes the address portion of the card the equivalent of a spirit duplicating master.

▶ When orders are processed, all subsidiary documents (invoice, ledger card, address labels, etc.) receive an imprint direct from the master card. No copy typing is needed.

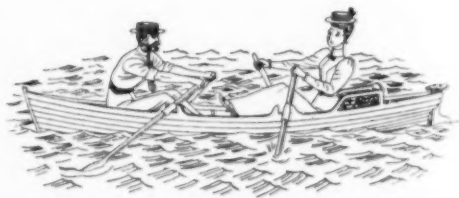
A small, hand-operated roller is fitted with a felt strip holding spirit. When run lightly over the surface to be printed, it leaves a faint film of spirit. The master card is then merely placed over the patch of film, the roller is run over it, and a clear impression of that customer's details has been transferred.

American Wholesale have found that time and cost of preparing order documents have been cut over 200 per cent by this simple system. Before, the average output was about 30 sets of documents per clerk per hour. Now as many as 150 are achieved.

## Training booklet grooms secretaries—and bosses

NINTH in a series of unusually good training booklets issued by the **Shell** organization is one entitled: *Something for Secretaries* (with a little something for their chiefs too).

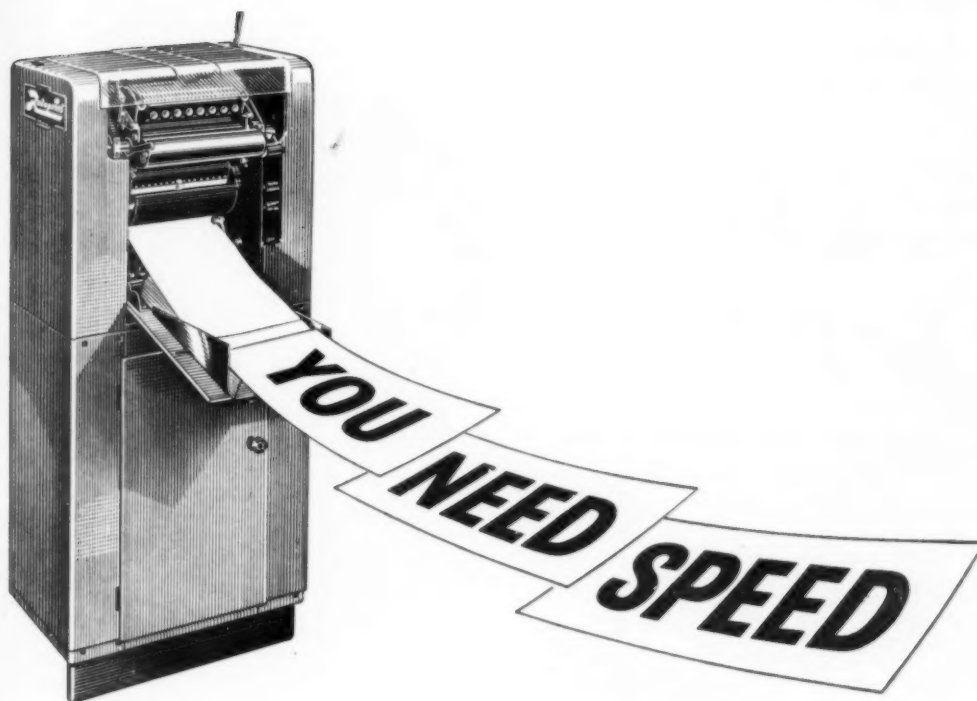
As the illustration shows, the style is whimsical, but



*If you're not on his side, you can't make a success of it, can you?*

is saved by discreet good taste from archness. Each page addresses, first, "Madam—" asking, for instance: "Are you business-like in your methods or does your filing system seem to him to have been designed by an Outer Mongolian?"

Next comes a Victorian illustration, suitable for



Never was the need for print so urgent as now. Never has the demand for speed been so vital.

With every additional turn of the "economy screw" one is forced to think of ways to ease the pressure; to maintain turnover without undue extra expenditure. One way is to send out regular direct mail letters with attractive sales literature. A Rotaprint machine, on the spot, can do this for you without major increases in your advertising budget.

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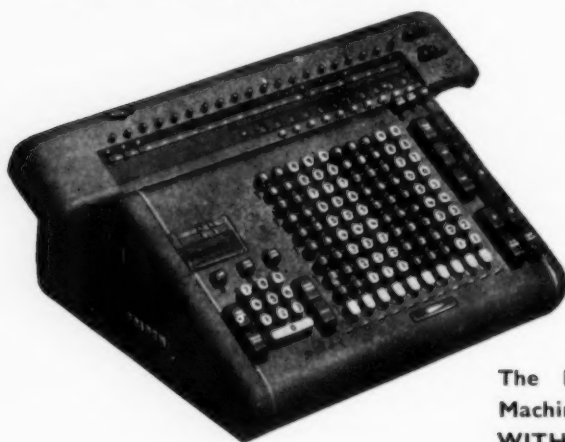
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tioned. In this case: "If you've got an Outer Mongolian boss, he'll be delighted."

Finally, "And you, Sir—" with a neat rider to what the ladies have been told: "And you, Sir, of course never hide pieces of paper, and then when you cannot find them mutter unprintable things about . . ."

The whole booklet is a model of tact. Its message applies to everyone, from the chairman down, but its tone can hardly offend anyone.

## They didn't wait for the Common Market

SINCE 1948, **Trico-Folberth Ltd.**, motor accessory manufacturers, have been going all out for a foothold in the European market—and they have succeeded. By a steady programme of exhibiting at major Continental motor shows they have managed to sign up



On board ship goes Trico's mobile exhibition for another Continental sales drive

standard equipment contracts with vehicle manufacturers in countries including France, Sweden, Spain, Germany and Italy.

They have a mobile exhibition unit which goes from show to show, varying the sales messages as needed. Last year it covered Amsterdam, Geneva, Turin, Frankfurt, Paris and Helsinki. This year Frankfurt is out, but Copenhagen and the Brussels world fair are being covered, in addition to the other major shows.

## It pays to have a team of trouble-shooters

SICKNESS and other absences from work are a serious menace to rationalized production. So the **Yorkshire Copper Works Ltd.**, Leeds, have a team of 60 special workers who are able and willing to take on any production job whatever at a moment's notice.

APRIL 1958

## MANAGEMENT AT WORK

The men are carefully selected. If they pass a six-week probation period, they proceed to a training course lasting some months, in the course of which almost every type of job is covered. The work is not easy, and the trouble-shooters must be ready to work day or night, early or late shifts, as required. In return, special wage agreements exist for them, and they are promised particular consideration should labour have to be laid off.

These specialized non-specialists take an active interest in the company's production management, and hold regular discussion group meetings on the subject.

The scheme as a whole has union blessing.

## High Street publicity aids recruiting drive

PREPARING for a Free Trade area, **Villiers Engineering Co. Ltd.**, Wolverhampton, have launched an intensive recruiting drive. Main aim is to find staff for a full night shift.

Novel idea to help get applicants is a special recruiting 'shop' which has been set up by the company in the middle of Wolverhampton's main shopping area. A window display shows Villiers products and gives details of vacancies offered. Personnel staff are on hand to answer enquiries, to interview and to hire labour on the spot.

The shop is open in the evenings and on Saturday mornings as well, so as to attract people at convenient times outside working hours.

## A tape recorder stocks this warehouse

AT the U.S. Air Force supply depot at Ogden, Utah, a main circulating conveyor system is controlled by an electronic device called ASSET (Automatic Selected Station Electronic Timer). This enables goods to be routed with great precision to selected stations on the circuit. Here is how it works:

The layout of the conveyor itself is simulated inside ASSET by an endless band of 35mm. magnetic tape, scaled down in the ratio of 6 to 1. The speed of the tape simulates the speed of the conveyor in the same ratio. Various unloading stations along the conveyor are simulated at corresponding points on the tape by playback heads.

The loading operator has a simple press-button



## MANAGEMENT AT WORK

control panel. When dispatching an item, he simply presses the button corresponding to its unloading point. This alerts the relevant pick-up head inside ASSET.

As the package starts on its way, it breaks a light beam and a photo-cell records the exact location of that package on the magnetic tape. When the recorded starting point reaches the alerted pick-up head, ASSET takes whatever action has been pre-arranged—hoisting, lowering, transferring the package or shooting it off the belt.

### How to put life into direct mail shots

**T**WO new promotion ideas were successfully tried out recently.

1—A cardboard gramophone record was used to put across a sales message for **Morphy-Richards Ltd.**, when they sent details of a pre-Budget wedding promotion to retailers.

2—A fold-flat cardboard 3-D viewer with a short full-colour filmstrip was sent by **Vauxhall Motors Ltd.** to selected newspapers and magazines to publicize the new Victor Estate car.

The record was produced by Printed Sound Ltd., London, using a special pressing process on plastic laminated to cardboard. The system gives good reproduction, and the Morphy-Richards record included a version of the Wedding March. Playback is at 33½ r.p.m. Cost per record in this case came out at about 1s. 6d.

The viewer is an ingenious affair, produced by A.P.I. Ltd., London. No complicated putting together is needed—press the sides and it opens; press the top and bottom and it folds flat again.

A.P.I. produced both stereoscopic filmstrip and viewer for about 3s. 6d. on a limited run.

### These sponsored factories are a paying proposition

**S**INCE the start of Remploy's sponsorship scheme (**BUSINESS**, June 1956) twelve firms have found that it is a paying proposition. They provide the sub-contracting work, and install a certain amount of specialized machinery if it is needed. Remploy see that the work is carried out efficiently and accurately.

First firm to take up the idea were **Dowty Seals Ltd.**, Cheltenham. They found it worked excellently, and extended their sponsorship to another factory in Sheffield. In part of the works there, they installed machinery for



#### TV COMMERCIAL BASED ON MOTIVATION RESEARCH

What will drive men back to soap-and-water shaving? Gillette used motivation research to find an answer—and as a result produced the TV commercial from which these stills are taken. The emphasis is on 'clean . . . smooth . . . refreshing', symbolized by close-ups of a drop leaving the tap and hitting the water (lower picture). The man's face (top) was photographed as a water reflection. The whole spot was an excellent example of hidden persuaders at work.

servicing and reconditioning hydraulic pit-props. Although the work is equivalent to heavy engineering, use of power tools and mechanical handling devices has overcome employees' disabilities.

**Esso Petroleum Co. Ltd.** have sponsored a similar workshop on the Treforest Estate, South Wales. There Remploy are to service and test some 3,000 mechanical valves a year which are used in the Fawley refinery.

**The Guardian Press Ltd.**, Neath, have equipped a printing shop for Remploy operators. **Merton Lewis Ltd.**, household linen manufacturers, started a sponsored textile factory in Wigan. Further space was taken over in a Bolton factory by the same firm when it became clear that Remploy were doing the job efficiently and competitively.

Other sponsorship schemes will shortly be in production with switchgear, knitwear, resistances and plastic containers.



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How a Danish firm cut out  
repetitive manual tasks by  
using 'common language' tape

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# Automatic Typing Gives Faster Order-processing

by Paul de Waal

**W**HEN businessmen talk about automation in the office, they are usually referring to the use of electronic computers. But this is only one side of the story. To many firms the other side—non-electronic automation—is of more practical interest.

Its potentialities are now being explored by progressive firms in Britain and abroad. Among those who have already acted on their findings are Jutland Telephone Ltd., Aarhus, Denmark.

**Their problem** was to streamline the order-processing routine for new installations and extensions to old ones.

**Their solution** was to link tape-operated automatic typewriters with an existing punched card accounting system.

This article describes how the work was planned and carried out by their O and M section, in consultation with a firm of automation specialists.

**The old system** was based on a

form filled in by the sales office. From this, an order - acknowledgement - contract, with carbon copies, was typed manually. When the telephone subscriber returned the signed acknowledgement, together with payment, a work-order form (with carbon copies) was also typed manually. This was then sent to the department installing the telephone.

As soon as the installation was made, the work-order was typed to the office. Then one copy of it was circulated among the



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Key equipment in Jutland Telephones' new system is the Flexowriter. This machine (1) produces punched paper tape as a by-product of manual typing and (2) automatically types information fed into it on punched tape

department, the accounts department, the filing department (where record cards were typed), the traffic department, and finally the tabulating department (where name, address and item cards were punched manually).

Clearly the weaknesses of the old system were repeat manual writing and manual card punching. These slowed down the whole routine. So did the fact that one copy of an order had to circulate among five departments.

*In principle, the problems were the same as those which face companies all over the world. While care had been taken of 'vertical carbon copying' (i.e., copies of different formsets) nothing was done about 'horizontal copying.'*

In the new system this defect has been remedied by using:

- 1—Automatic typing of different formsets.
- 2—Automatic punching of tabulator cards by means of punched paper tape.

In this way the task of controlling different operations is much simplified, since it is now necessary to con-

trol only manual additions and/or amendments. (The automatic writing of forms is analogous to the use of carbon copies in a formset—and there, of course, no one would think of controlling anything but changes and additions!)

The system involves the use of Flexowriter automatic typewriters. These machines produce punched paper tapes as by-products of manual typing operations. They also 'read' punched tapes and can thus automatically reproduce information which is fed into them in this form. Moreover, the tapes themselves can be fed into other tape-operated office machines—for example, the automatic tape-to-card punch which Jutland Telephone have now installed in their tabulating department.

**The main feature of Jutland's system is speed.** After the initial partly-manual typing, all forms are produced automatically at the rate of 570 keystrokes per minute. Tabulator card punching is done at approximately 55,000 columns per hour, and no verifying is needed.

Here is a step-by-step description of the automated system (as shown in the flowchart on page 103):

● When a customer's order is received, the Flexowriter operator prepares an order-acknowledgment in triplicate. This provides (1) the copy which the customer signs and returns to the company; (2) the customer's own copy; and (3) a control copy.

This typing is programmed by a master item and programme tape. The Flexowriter operator manually inserts the customer's name and address and other variable data. Simultaneously, the machine automatically punches an order programme tape containing all information needed for subsequent functions.

The customer's acknowledgment-contract, plus the copy, is sent to him, while the corresponding order programme tape is filed with the order.

● On receipt of the customer's signed acknowledgement and the installation fee, the order programme tape is taken from the file and inserted into the Flexowriter, which produces a work-order in duplicate. If no changes have been made on the acknowledgement form, the order is typed automatically. But if there are changes in spelling, address or anything relating to the installation,





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have the largest range in the world—we will design one *especially for you!* It's time you took the bull by the horns. Phone BISHopsgate 6511 now—and see how thoroughly—

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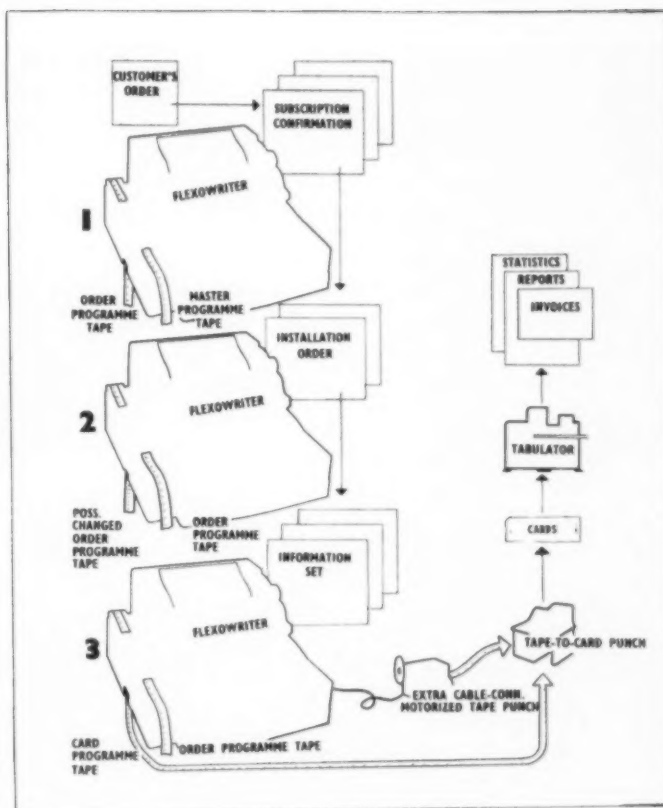
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GS 82a

102

BUSINESS

**WORK FLOW.** Punched tapes produced by Flexowriter operations are automatically converted into punched cards for billing and analysis. The procedure is described on this page



these are inserted manually during the automatic typing; at the same time, a new order programme tape is punched.

● When the installation has been made, the department concerned completes and returns the work-order. Then the order programme tape is taken from the order file, and a form-set in triplicate is automatically typed. One copy goes to each of three departments: Directory, tabulating and filing. If there are changes in any of the installation items, these are added automatically, using a master item tape. Other information, such as date of installation, is added manually during the automatic typing of this formset.

● As a by-product of the typing, two separate tapes are punched, one in the Flexowriter's punch and the other in a cable-connected motorized tape punch. Both are sent to the tabulating department, where they are fed into a tape-to-card punch. The tape from the Flexowriter's punch prepares name and address cards which

are used, among other things, for automatic billing. The tape from the motorized tape punch prepares the tab cards used for statistical purposes etc.

As there are several tab cards per installation, some pieces of information have to be punched several times. This is done automatically by a duplicating 'memory' in the tape-to-card punch.

(The above description refers to new telephone installations or extensions. In the case of removals, the system works in much the same way. There, however, the first writing is the work-order.)

The new system gives the company the following advantages:

- 1—Repetitious manual writings are eliminated.
- 2—There is greater accuracy in processing the forms.

3—The circulation of information is accelerated.

4—The number of people preparing forms and punching tab cards has been reduced substantially.

Jutland Telephone Ltd. uses 22 master heading programme tapes and 200 master item tapes. These are filed in vertical tape panels of plastic. Each panel has 10 spaces for tapes and the spaces as well as the tapes themselves are tilted to make it easier to pull tapes or put them back.

To simplify the preparation of forms, the company use marginally-perforated continuous forms, and the Flexowriters have pin feed and line finders. These devices ensure that the forms are always correctly aligned when they are advanced automatically to the next typing position. *END*



*Stop costly duplication in  
design and production  
—two case-histories show how*

# VARIETY REDUCTION

by Alan Collard

## 1. This Russian firm standardized their one-off production

**T**HES.M. Kirov factory, Leningrad, specialize in the manufacture of heavy cranes. In conjunction with a design group the management recently carried out a project to increase productivity and output.

A basic difficulty was the predominantly one-off nature of the works. Most of the cranes are supplied to individual customer specifications, which means special planning for each order.

A study of design variations was made with customers' approval. It established that 60 to 80 per cent of

the components for each type of crane do not vary. This meant that such constant components could be mass-produced as standard assemblies.

For instance, 14 types of bogey were reduced to only four; 18 different brakes became five; six flywheel assemblies were cut to three; and 20 types of chassis were reduced to nine.

Next, component designs and sizes were analysed by function, and standard parts were evolved in a large number of cases, as the illustration on page 107 shows. In all, a 58 per cent reduction in component variety was effected (from 275 to 125) and the

number of different sizes made was cut 46 per cent (from 973 to 529). In addition it was found that the 32 grades of steel used could be pruned to only 16.

**Standardization of manufacturing processes** was the logical sequel. Components were re-classified, not by apparent type, but by shape, purpose, materials used and heat treatment needed. It was found that 17 standardized manufacturing processes could be evolved to cover all the classifications.

A large number of individual processes which were previously varied



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Mecca are one of the largest catering organisations in Britain. Hygiene is their watchword, but in the interests of efficient operation, this must be coupled with economy. That is why, in the washrooms and kitchens of all their branches, they have installed Hi-Dri paper towels.

Mecca find that Hi-Dri saves them money in *dozens* of ways. With Hi-Dri towels there's no loss, no laundry and no deterioration. Instead, a clean dry towel for every job—and for every pair of hands—every time . . . and Hi-Dri hygiene is much appreciated by customers and staff alike.

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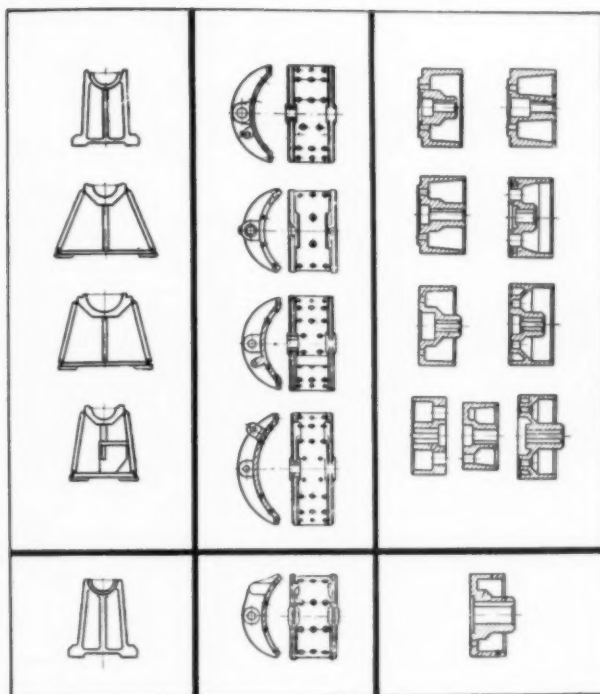
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How components were standardized. Analysis of common requirements showed that many types of stanchions (left), brake shoes (centre) and brake drums (right) could be reduced to one type only. In all, types of parts were reduced from 275 to 125, and sizes from 973 to 529

out on universal equipment were replaced by more progressive ones, employing more specialized, and therefore more productive, machines.

Re-classification, in fact, did away with most of the short-run and one-off production of components and assemblies by batch processing dissimilar items which required similar treatment.

This considerably shortened production cycles and reduced the cost of producing new types of crane, since the work involved in design and manufacture was very much less.

Standardized manufacturing processes also made possible a big reduction in re-setting time for machines. Length of average runs was almost trebled, giving much better machine utilization.

Before reorganization there were three main production sectors in the principal machine shop, dealing respectively with turret lathe turning, milling - drilling - grinding, and boring. Another shop took care of other processes and most of the assembly work.

After reorganization there were four self-contained production sectors in each machine shop, equipped to process:

- 1—Large components (fly-wheels, pulleys, axle-box casings, supporting plates, brakes).
- 2—Shafts and drums.
- 3—Medium-sized castings and forgings (covers, locking washers, cases for bearings).
- 4—Minor components (cams, axles, levers, rigs, supports).

A general shop was set aside for all assembly work.

Rational siting of equipment in each sector ensured smooth production flow for the great majority of components. The transfer of components from sector to sector and from shop to shop for interim operations was largely eliminated.

For example, an installation for the surface-hardening of wheels is now sited right on the production line in the first sector, where one of the most massive crane components—the fly-wheel—is processed.

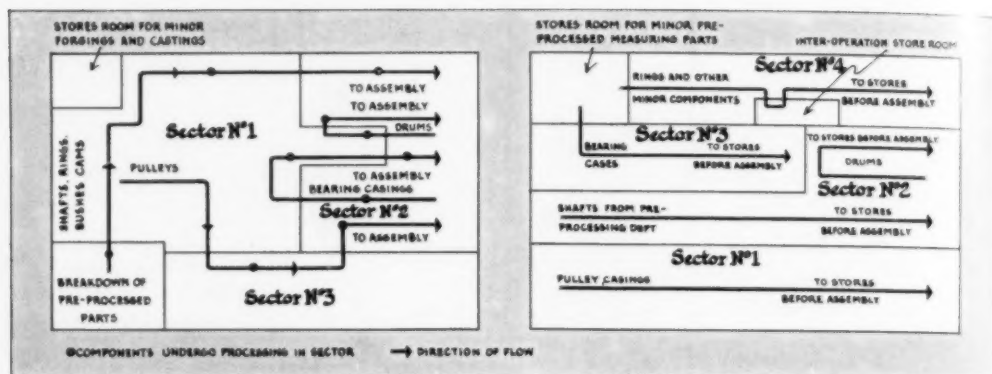
Re-organization has considerably reduced the range of components processed by each sector. Instead of the 12,000 components formerly processed each month, the average now is—

- Sector 1: 600.
- Sector 2: up to 200.
- Sector 3: up to 800.
- Sector 4: up to 2,400.

A central semi-finishing department has been set up to serve both machine shops. It handles the cutting of semi-finished parts, blocking, trueing and centering of rolled metal parts and similar operations.

This has made it possible to group semi-finishing operations of the same type, using high-speed systems, and to specialize workers in operations of a given type. Moreover, the organization of a central semi-finishing department has brought about economies in materials and released qualified turners for more responsible work.

No less important has been the establishment, on the routes of semi-



Diagrams compare production flow before (left) and after reorganization. Instead of parts going from process to process, separate production lines now cater for each of four component groups. Productivity is up by more than a third

finished parts and finished components, of a store for semi-finished parts (forgings and castings), and a store for making up sets of finished components before assembly.

Order processing is now based on a system of minimum stock requirements related to monthly fluctuations. These are calculated as an average

figure based on annual programme data.

As a result of batch processing, the total range of components which the shops plan for every month has been reduced from between 14,000 and 23,000 to 4,000. Another 1,000 types of component are batch-produced 'for the stores'.

Only 22 per cent of the complete

range of components are in constant production, the remaining 78 per cent being planned for production at intervals of from two months to a year.

This reorganization programme increased output by 39 per cent in two years, while prime costs were reduced by 11 per cent. The productivity of Kirov's work force increased by 35 per cent in the same period.

## 2. Better cataloguing cut their component range by 26 per cent

MANY firms stock and use an unnecessarily varied range of materials, tools and components. In extreme cases, it has been found that four out of five varieties are superfluous, representing as much as 30 per cent of the value of all stocks.

This is a heavy drag on a firm's resources. The annual cost of holding stores (including the cost of capital, rent, handling, administration, insurance and pilferage or obsolescence losses) is at least 15 per cent of their value. In some industries it is as high as 25 per cent.

A growing number of manufacturers are realizing that it is possible to make big savings in this field. Among them are J. and E. Hall Ltd., of

Dartford, who have now completed one stage of a full variety reduction programme.

Hall's employ about 3,400 people and make refrigeration, air conditioning, lift, escalator and oil burning equipment. The majority of orders are customer-built, which means that the method of manufacture is primarily one-off, with a wide range of components being made in comparatively small batches. Some components are standard, but others (especially those for evaporators) are not.

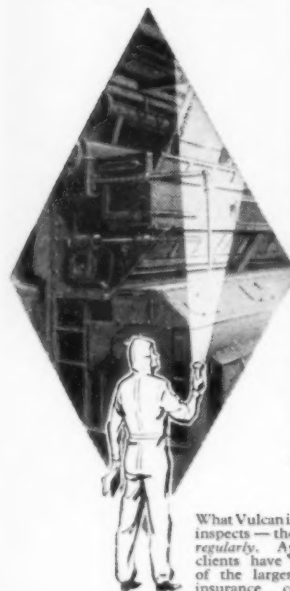
Some time ago, enquiries by the management revealed that in many cases very similar and even identical items were being made and stocked under different names. The reason

for this lay in the stock recording system, which did not necessarily bring like articles together.

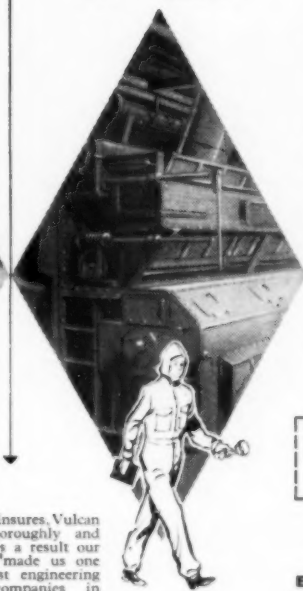
If a designer, when going through the stock list, could not easily find the part he wanted, he usually assumed that it did not exist. Therefore a new part was produced and christened—its name often related to the assembly in which it was to be used. Meanwhile an identical part, named for a different assembly, might well be lying in the stores.

The management found that there was no method of cross-referring these names. Consequently they decided that there might be even more duplication of parts than they had suspected in the first place. To help them to investigate fully, they called

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**HOLborn 7221**



Left: part of the stores before reorganization. Right: better cataloguing has not only reduced stocks, but has also made it easier to store and locate them

in E. G. Brisch and Partners, a firm of consultants in classification and coding.

After a preliminary survey it was decided to restrict the operation to materials, fixings and fastenings. This involved a total of more than 4,500 items. The work was carried out in two stages:

1—Correct identification of all items in the existing list. This was done by Hall's themselves by checking each item in the stores and recording details on standard information cards supplied by the consultants.

2—Classification and coding. This was done by the consultants to

Halls' requirements.

The work of identifying and coding took two years. A clerk was employed on it full-time, under the supervision of a senior member of the design staff.

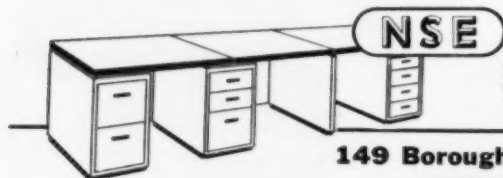
Details of each item on the list were entered on one of the standard cards.

*Continued on page 130*

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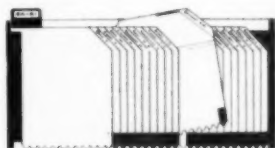
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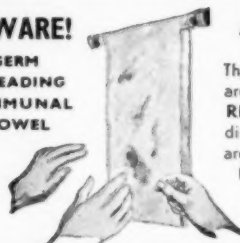
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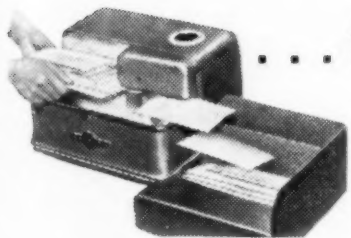
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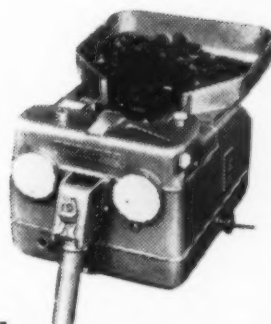
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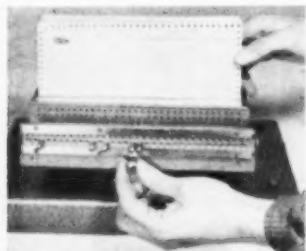
# BUSINESS Equipment Survey

NEW AIDS TO GREATER OUTPUT AND LOWER COSTS

## FOR YOUR OFFICE

### Manual Punched Cards

THE handling and selection of Anson edge-punched cards is made easier and faster by two new devices. They are selectors — one manual, one with electric jogger — which enable the operator to use any number of needles simultaneously



Faster card handling

and to deal with packs of up to 500 cards at once.

Operating principle is the same for both selectors. Each consists of a framework (needle basket) in front of which is a movable drawbar. The operator first inserts the needles through the drawbar, choosing the correct holes by reference to a strip index on the framework. When all needles are in place she locks them by means of a single safety catch.

Then she pulls the bar, complete with needles, towards her, thereby leaving space in the back of the frame for the pack of cards. Having placed these in position, she pushes back the drawbar, thrusting the needles through the pack.

If she is using the manual selector, she then picks up the needle basket by its handle, inverts it and shakes it gently so that the cards slotted in the chosen holes fall out. With the electric model (not illustrated) the needle basket is not lifted up, but swings downward on a frame. Jogging is

done electrically and the selected cards are caught on a base plate.

At present sorting (i.e., arranging in numerical order by means of a single needle as opposed to selecting) must be done manually. But it is hoped in the near future to produce an electric sorting machine for handling 500 cards. Now available is a squaring board to help in manual handling for sorting.

*George Anson and Co. Ltd.,  
58 Southwark Bridge Road,  
London S.E.1*

### Six-piece Executive Suite

ANY of the six pieces which make up the new *Green and Vardy* executive suite may be bought separately. The suite comprises desk, wardrobe, and conference table, telephone table, 4ft. bookcase and 3ft. bookcase; is available in striped walnut (as the desk shown here) or in other veneers, some uncommon.

Good design, construction and finish are notable features of the furniture. The desk, which has a 6ft. by 3ft. writing surface, is curved to give easy access to all parts; it includes a deep filing drawer and a cupboard with pull-out trays.

Design of the wardrobe is unusual. The interior is divided into two parts. One has ample room for clothes; in



Curved for easy access

the other there are rails for suspended files.

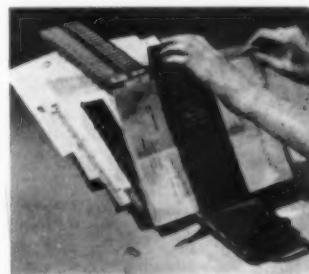
A clever feature of the bookcases, both of which have adjustable shelves, is the slight overhang at the back of the top. This means that even when the furniture is placed against a wall with a skirting board the top touches the wall and will not allow objects to slip behind it.

The sides of the conference table (which will accommodate eight) have a slight convex curve. This eliminates any impression of heaviness which its size might otherwise create.

*J. L. Green and Vardy Ltd., 79 Essex Road, Islington, London N.1*

### Document Sorter

FILING, mail distribution and other operations which require the pre-sorting of documents can be considerably speeded up by using the



Speeds up filing

*Skandex* sorter. Though simple in design, the equipment permits papers to be sorted into 25 categories at a time in very little space.

The sorter consists of 25 hinged flaps fixed to a tray with a base area measuring 17½ in. by 4 in. There are tabs at the top of the flaps which can

★Equipment included in this survey is selected for its news value alone. Manufacturers are invited to submit details of new and interesting products for consideration. An original photograph should accompany each item submitted.

## BUSINESS Equipment Survey

be indexed to suit the user's requirements. Documents are sorted merely by placing them behind the appropriate flaps.

As the flaps may be inclined in either direction and index tabs can be used on both sides, the *Skandex* can be indexed for a total of 50 categories.

*Remington Rand Ltd., Commonwealth House, 1-19 New Oxford Street, London W.1*

### Miniature Recorder

**N**OW manufactured in this country, the *Dictet* miniature dictating machine (first shown at the Business Efficiency Exhibition last June) weighs only 3lb. and measures 2in. by 4½in. by 6½in.

Recording is done on quarter-inch twin-track polyester magnetic tape, which will take 30 minutes' dictation on each track. The motor is powered by two 6-volt mercury batteries with about 20 hours' life; the amplifier runs on another 6-volt battery which lasts 40 hours. An adaptor, available as an optional extra, allows the machine to be run off a 220v. 50 cycle power supply.

The magnetic microphone also acts as a playback speaker. To avoid accidental wastage of batteries the motor only operates when the microphone is connected.

The *Dictet* has a leather carrying-case which holds recorder, microphone and a spare set of batteries, and has a shoulder carrying strap. Accessories include a twin-ear hearing device or single earpiece, foot control and adaptor plug for transcription purposes. There is also a re-recording adaptor by which *Dictet*

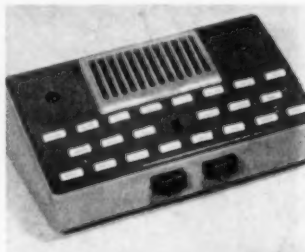
recordings can be transferred to belts for transcription on *Time Master* machines.

*Dictaphone Co. Ltd., 17-19 Stratford Place, London W.1*

### Intercom System

**L**AATEST *Centrum* intercom system is the *Simplex*. Up to 23 stations can be installed. Because a single central amplifier is used, the units are extremely small, the largest measuring only 6in. by 10in. by 2in.

The system offers a choice of three different master stations, with six, 14 or 22 positions respectively. Sub-stations, which can receive and answer



No eaves-dropping

calls but not originate them, are of two kinds—regular, and loudhailer for very noisy areas.

Choice of the permutation of masters and sub-stations is left to the user. Top executives, for example, may require to call all other stations on the system; juniors may need only a 14- or 6-position master.

Operation is by push-button. To originate a call the speaker presses the appropriate key and then the 'speak' key; to hear the reply, he

presses the 'listen' key. Incoming calls are accepted automatically and can be heard and answered at some distance away from the instrument if desired.

The system makes eaves-dropping impossible. Further privacy is provided by an extra switch on each master station; when this is in operation an incoming caller cannot overhear conversation going on in the office which he calls.

The single central amplifier is installed at any convenient point, and is quite silent in operation since it merely powers individual loudspeakers. Volume for the whole system is adjusted at the amplifier.

A system similar in scope—the *Duplex*—is operated electronically by sound, and can therefore be used without switches. This, however, uses more than one amplifier.

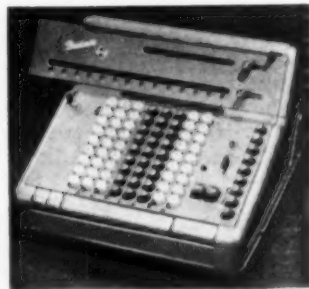
Both systems are available for purchase only.

*Centrum Electronics Ltd., 37 South Road, Southall, Middx.*

### Electric Calculators

**N**OW available in this country is a range of *Badenia* calculators, made by a long-established German company. Shown here is the *T. A. 14*, a small-capacity electric machine suitable for a wide variety of commercial calculations.

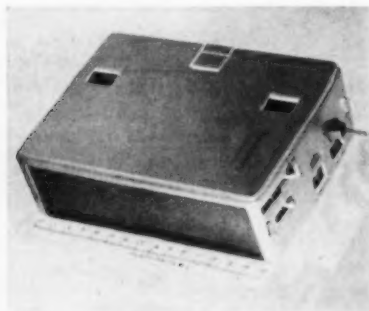
The machine permits simple, fast and accurate calculations. Both registers have full tens transmission



Fast and accurate work

(carryover) which ensures that results are correct whatever the size of the sum involved, and regardless of whether working is done from left to right or vice-versa.

Both positive and negative multiplication and division are fully automatic. This means that, after setting in the appropriate figures, the user



New pocket-sized dictating machine records up to 60 minutes at one loading

# "Unaccustomed as I am—

"I . . . er . . . a . . .  
don't know just what  
to say on the subject."

"I wasn't expecting  
to be called on to  
speak."

"Mr. Bell can tell  
you more about the  
idea than I can."

"Er . . . that is not  
very clear, but that's  
the best I can do."



## ... Yet 4 Weeks Later He Swept Them Off Their Feet!

In a daze he slumped to his seat. Failure . . . when a good impression before these men meant so much. Over breakfast next morning, his wife noticed his gloomy, preoccupied air.

"What's the trouble, dear?"

"Oh . . . nothing, I just fumbled my big chance last night, that's all!"

"John! You don't mean that your big idea didn't catch on?"

"I don't think so. But Great Scott, I didn't know they were going to let me do the explaining. I outlined it to Bell—he's the public speaker of our Company! I thought he was going to do the talking!"

"But, dear, that was so foolish. It was your idea—why let Bell take all the credit? They'll never recognise your ability if you sit back all the time. You really ought to learn how to speak in public!"

"Well, I'm too old to go to a class now. And, besides, I haven't got the time!"

"I've got the answer to that. Where's that magazine? . . . Here—read this. Here's an internationally known institute that offers a home study course in effective speaking. They offer a free booklet entitled *How To Work Wonders With Words*, which tells how any man can develop his natural speaking ability. Why not send for it?"

He did. And a few minutes' reading of this amazing book changed the entire course of John's business career. It showed him how, in a simple and easy method, in twenty minutes a day, would train him to dominate one man or thousands—convince one man or many—how to talk at business meetings, lodges, banquets and social affairs. It banished all the mystery and magic of effective

speaking and revealed the natural Laws of Conversation that distinguish the powerful speaker from the man who never knows what to say.

Four weeks sped by quickly. His associates were mystified by the change in his attitude. He began for the first time to voice his opinions at business conferences. Fortunately, the opportunity to resubmit his plan occurred a few weeks later. But John, this time, was ready. "Go ahead with the plan," said the Managing Director, when John had finished his talk. "I get your idea much more clearly now. And I'm creating a new place

for you—there's room at the top in our organization for men who know how to talk!"

And his newly developed talent has created other advantages for him. He is a sought-after speaker for civic, banquet and lodge affairs. Social leaders compete for his attendance at dinners because he is such an interesting talker. And he lays all the credit for his success to his wife's suggestion—and to the facts contained in this free book—*How To Work Wonders With Words*. For twenty-five years the Speakers' Service has been proving to men that ability to express oneself is the result of

*How To Work Wonders With Words*. Over 100,000 men and women in all walks of life have found in this book a key that has opened a veritable floodgate of natural speaking ability. See for yourself how you can become a popular and dominating speaker! Your copy is waiting for you—free—simply for the posting of the coupon.

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training, rather than a natural gift of a chosen few. Any man can absorb and apply quickly the natural Laws of Conversation. With these laws in mind, the faults of timidity, self-consciousness, stage-fright and lack of poise disappear; repressed ideas and thoughts come forth in words that sparkle with brilliance, charm and power.

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## BUSINESS Equipment Survey

ator merely presses the 'divide' or 'multiply' button to arrive at the answer, whether positive or negative.

The keyboard gives a visual check of each operation, and answer dials are built up for easy reading. Another contribution to fast working is push-button central clearance of all registers with simultaneous carriage return. Capacity of the *T.A.14* is 8 x 7 x 14.

*Badenia Calculators Ltd.,  
Lion House, Red Lion Street,  
London W.C.1*

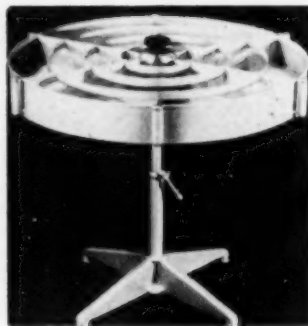
### Horizontal Cardwheel

A LARGE number of cards can be stored in very little space in the new *Cardmaster Minor* horizontal cardwheel. A variety of models is designed to suit all standard shapes and sizes of index cards; and because these are merely dropped into place, existing cards may be used.

Total diameter of the wheel, whatever the size of cards accommodated,

is 24in. The contents are separated by concentric circular dividers, the distance between them varying according to the width of the card used. Capacity of the wheel therefore varies from 10,000 for 3in. by 5in. cards to 2,500 for 8in. by 5in. cards. Equally suitable for punched cards, it will hold 24,000 of the smaller size; half as many 65- and 80-column cards.

The wheel revolves at a finger touch, and is mounted on a firm base to prevent accidental overturning.



Holds up to 24,000 cards

Height is adjustable between 22 and 26in., making it convenient for use at varying heights of table and by tall or short operators.

Optional features are a transparent plastic dust cover; castors on the feet for easy movement; lift-out trays to replace the standard fixed divisions.

*Evertaut Ltd., Walsall Road,  
Perry Barr, Birmingham 22B*

### Semi-portable Typewriter

ALTHOUGH designed for office use, the new *Oliver Consort* typewriter is a good deal smaller than a standard-size machine.

Two kinds of tabulation mechanism are available. Nine-key tabulation (operated by push-button) is recommended for statistical, billing and other figure or column work; key-set tabulation, set by a knob at the carriage-end, will prove more suitable for correspondence and display typing. Each type of tabulation is available on a 10in. or 13in. carriage machine, making a choice of four models in all.

The *Consort* has all the features

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Get in touch with us at either of the addresses below and obtain the booklet which describes the "Century" Non - Cancellable Disability Insurance Scheme for Employees.

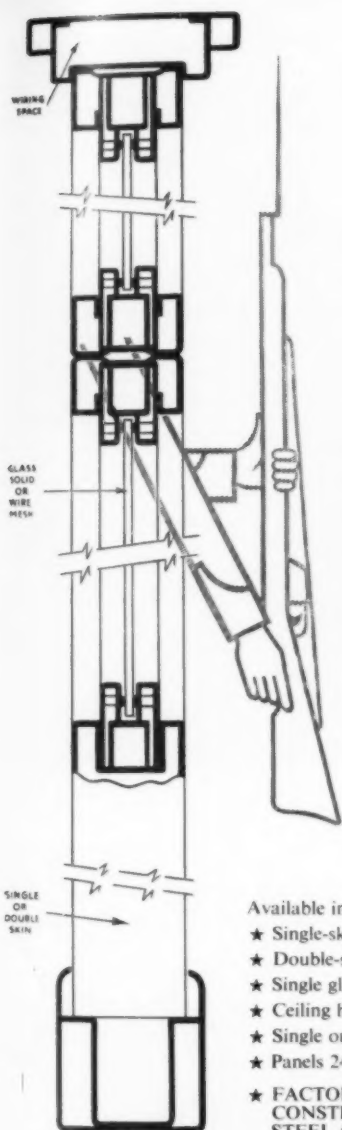


**THE CENTURY INSURANCE COMPANY, LIMITED**

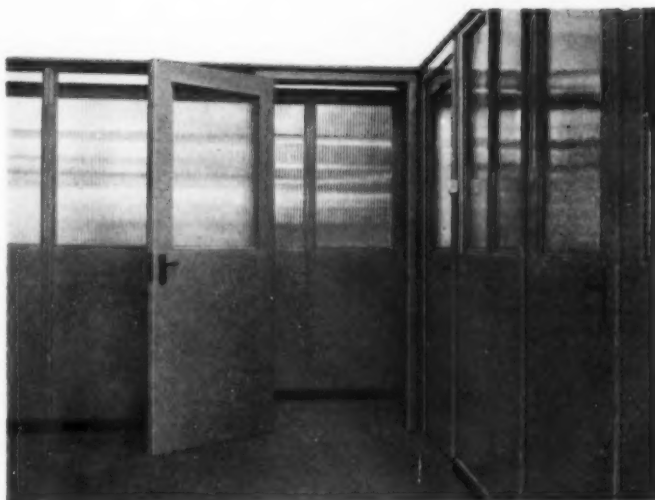
7 Leadenhall Street, London, E.C.3.

18 Charlotte Square, Edinburgh, 2.





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Rubery Owen Steel Partitioning is of advanced design incorporating all the essential features of modern practice in office and factory planning and provides for maximum daylight.

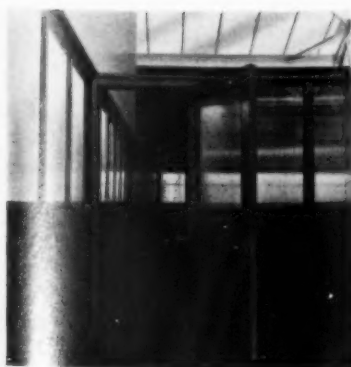
Designed on the unit construction principle, standard panels are easily adapted to suit the available area. They are speedily erected and just as easily dismantled and re-erected to form a change in layout without involving further expenditure. Clean, hygienic and fire-resisting, R.O. partitioning preserves an attractive appearance with a minimum of cleaning maintenance.

Available in the following specifications.

- ★ Single-skin or double-skin panels
- ★ Double-skin insulated panels
- ★ Single glazed, double glazed or wire mesh
- ★ Ceiling height, free height, barrier height
- ★ Single or double doors
- ★ Panels 24in., 30in. or 36in. wide
- ★ FACTORY AND STORES PARTITIONING  
CONSTRUCTED OF STEEL ANGLE, SHEET  
STEEL AND WIRE MESH ALSO AVAILABLE

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Remember, too, that Rubery Owen also specialise in the production of "LEA-BANK" metal office furniture and, of course, stores equipment of all kinds.



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RUBERY OWEN & CO. LTD., Industrial Storage Equipment Division  
Whitegate Factory, Wrexham, N. Wales. Telephone Wrexham 3566-8

Member of the Owen Organisation

## BUSINESS Equipment Survey



All standard features

expected of an office machine. Sturdily-built, it has extra-large cushioned feet to muffle noise; it takes a two-colour ribbon with automatic reverse, and can be used for stencil typing. Touch is light, and there is a choice of type faces.

*Olivetti Typewriter Manufacturing Co. Ltd., 289 High Holborn, London W.C.1*

### Jet-black Hecto-Carbon

**K**NOwn as *Carbex Jet Black*, a new carbon paper for use with spirit duplicators will give really dark

impressions. No wastage of copy paper occurs because good copies come off the machine from beginning to end of the run.

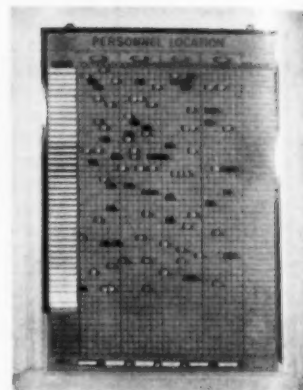
The manufacturers say that the new carbon is clean to handle.

*The Carbex Mfg. Co. (Bournemouth) Ltd., Alder Road Works, Parkstone, Dorset*

### Magnetic Wallchart

**I**NDEX strip holders and signals in the new *Cubedex* wallchart system are magnetic, which makes handling easy. Typed or written paper strips are inserted into the holders; the signals consist of cubes, each side of which is coloured differently. The body of the chart consists of four interchangeable panels inserted into a fixed framework. Continuous plotting can therefore be done by moving the extreme left-hand panel over to the right as information becomes obsolete.

The chart in the illustration is ruled for representative location. The index strips on the left therefore contain names; each side of the cube



Plotting with cubes

represents a different area, a colour code key being shown at the bottom of the framework. The panels are ruled off to represent weeks of the month. Other rulings are available according to individual requirements.

The chart measures 2ft. 2in. by 3ft. 2in. It is supplied complete with 30 index strip holders and 100 cubes.

*Wondersigns, 12-13 Hampden Gurney Street, Berkeley Street, London W.1*



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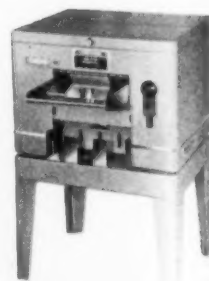
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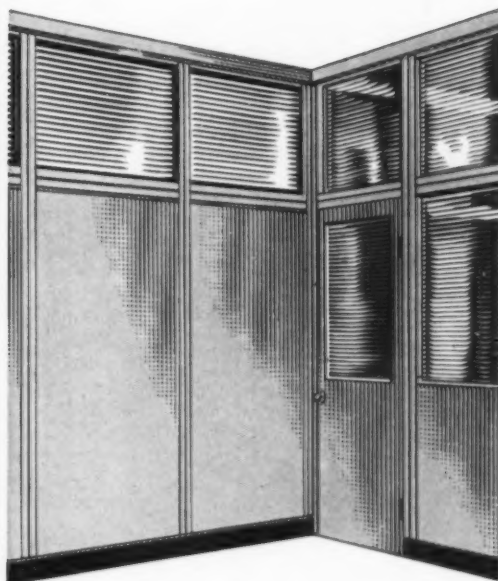
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APRIL 1958



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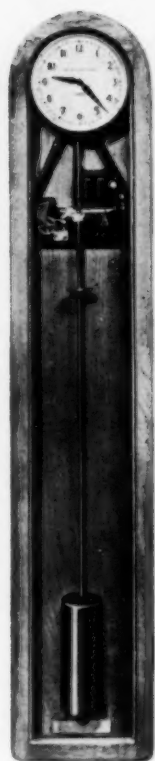
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make sure time

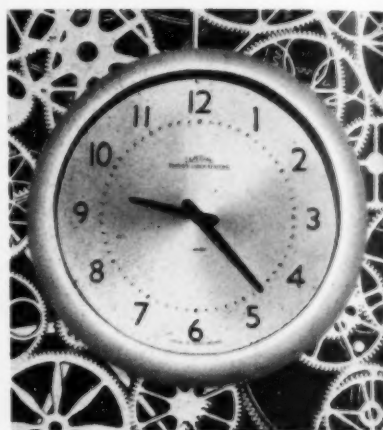


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E C S Pendulum Master Clock is independent of the mains supply. Accurate to within plus or minus three seconds per week, it will control by half-minute impulses, any number of slave clocks and time recorders. Case supplied in oak or mahogany finish and arranged for wall mounting.



*for greater security*

### The Watchman's Portable Clock

With a Watchman's Portable Clock in use you can check your night-watchman's patrol the next day. The watchman carries the clock and turns in it keys attached to wall boxes throughout the building, recording his position and the time visited on a tape in the clock. This tape acts as a permanent record. The clock has an 8-day movement and requires no supervision over week-ends etc.

*for greater efficiency*

### The "Autoprint" Time Recorder

The "Autoprint" Time Recorder is fully automatic—no bar to push, no lever to press. "Out" recordings can be made immediately after "In"—vital where overlapping meals and shift work occur. Resets itself every night for the following day. The time card provides an indisputable record for the wages department. Overstamping or obliteration is impossible. Available on outright purchase or rental terms.

*Full details and literature on any of the above—also Publicity Clocks, Time Switches and Process Timers sent free, on request—or visit our London Showrooms.*

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# BUSINESS Equipment Survey

## INDUSTRIAL EQUIPMENT

### Thickness Gauge

**W**ALL thickness of glassware is easily and quickly measured by means of a simple optical meter, based on the refraction principle. Measurements are made by looking



Measures glass thickness

through an eyepiece and reading the thickness directly off a scale.

Operation is as follows: A straight edge is placed on the outer surface of the vessel to be measured. Light striking the vessel is refracted by the inner surface of the glass wall. Two rays are therefore reflected to the eyepiece. The distance between the rays indicates the thickness.

Tolerance is plus or minus 0.1mm. within a range 0.2 to 10mm. No adjustment is required. The extremely small size of the instrument makes it possible to make 'spot' checks anywhere on the surface of even a very small vessel.

*Heinrich Schneider,  
Optotechnischefabrik,  
Bad Kreuznach,  
West Germany.*

### Fire Risk Reduced

**F**IRE insulation board is given a high degree of fire resistance by the *Pyrestos* treatment. It differs from others in that the treatment permeates the entire thickness of the

board. This means that the board can be worked, cut, grooved, and bevelled, without impairing its fire resistance.

Insulation board treated with *Pyrestos* is graded within Class 1 rate of flame spread (the highest there is) under B.S. 476/53. If a small piece is broken off and thrown into a hot fire it chars and breaks up, but it does not flame.

Treated board can be decorated in the ordinary way. But its thermal insulation properties are better, and it is proof against fungus and termite.

*Hickson's Timber Impregnation Co., Castleford, Yorks.*

### Pre-fab Buildings

**E**ASE of transport, convenience in erection, low initial cost and saving in maintenance are the advantages offered by a new range of pre-fabricated steel-framed buildings.

Called the *Ciel* system, it uses high tensile, lightweight steel sections with patented connections. These have an effective strength at least 50 per cent greater than that of hot-rolled mild steel. Resistance to atmospheric corrosion is from four to six times better.

Because there is a considerable degree of standardization, deliveries can generally be made from stock. Span lengths are available up to 96ft., with eave heights from 12ft. to 21ft. Special spans and heights can be supplied, however.

Wall cladding can be asbestos, steel, aluminium, or other materials.



Maintenance saved

Windows, translucent panels, and sliding doors are supplied as required.

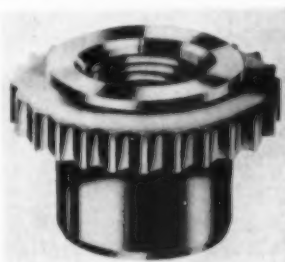
Most likely industrial applications for these buildings are warehouses, garages, stores, and workshops. Because of the light weight of the finished structures, savings can be made in foundations. Simplicity of construction means that unskilled labour can be employed.

*Richard Costain Ltd., 111 Westminster Bridge Road, London S.E.1*

### For Tapping Sheet Metal

**D**EEP-TAPPED holes in thin sheet metal are obtained quickly and easily by using the *Rosan* press-nut, an American device now available in this country.

Fixing the nut is simple. Access is



Self-locking nut

required from only one side of the sheet. First, a hole is drilled to fit the flange; then the flange is fitted into the hole and a hollow punch is placed over the nut and struck sharply once or twice. As a result, the nut is permanently and positively fixed.

What happens is that the impact forces the sheet metal to flow into the space behind the flange, locking the nut in place. The teeth of the serrated flange broach themselves into the parent metal to prevent rotation.

*Instrument Screw Co., Northolt Road, South Harrow, Middx.*

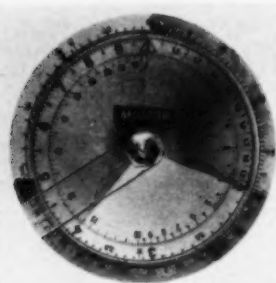
### Compact Calculator

**M**ORE convenient to carry about than a slide rule, the *Multor* calculating device performs some operations more quickly. Multiplication, division, percentages, interest and currency calculations are among its uses.

There are two discs and a trans-



## BUSINESS Equipment Survey



Replaces a slide-rule

parent index. By simply rotating the discs, calculations are performed automatically and the results are read off. Among those who will find it useful are architects, builders, surveyors, and accountants.

Diameter is 3½ in. It is supplied complete with leather case.

*K. Bisset and Co., 145 Grand Buildings, London W.C.2*

### Non-slip Gloves

ORIGINALLY designed for motoring, the *Lympet* non-slip safety glove has now been developed for industrial use. It is available in string or fabric and in various colours.

The slip-proof rubber strips on the face of the glove provide such a firm grip that a truck driver need only rest his hands on the controls, rather than grip them tightly. These strips are both hand-sewn and glued, to ensure that they will not pull away.

*Lauder Millar Ltd., 192 Broadhurst Gardens, London N.W.6*

### Grooving Tool

CONSIDERABLE savings in costs and time are claimed for a new grooving and chamfering tool.

Known as the *Truarc*, it cuts grooves in bores to very close tolerances. It can be used in standard drilling machines, capstans, centre lathes, or millers. It even operates satisfactorily in a portable drill. Either it or the work can remain stationary.

The tool incorporates its own device for limiting the depth of the cut. All that is required is to set it for depth

of cut and apply pressure. When the tool stops cutting, pressure is relaxed and the cutter automatically withdraws itself from the groove. It can therefore be used by unskilled labour.

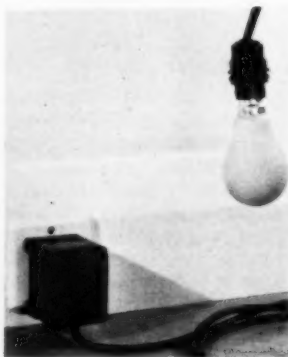
Although designed originally for grooving, the tool will chamfer, face, or make undercuts for threads.

*George Salter and Co., West Bromwich, Staffs.*

### Safety Plug

VOLTAGE is reduced 'at source' to 25v. by means of a mains plug with a built-in transformer.

Many companies, in order to safeguard their employees from electric shocks, provide portable equipment which operates on safe, low voltages like 50v. and 25v. But these voltages are supplied by transformers which are connected to the mains by



No shocks

flexible leads which are in themselves a source of potential danger. They lie about loosely so that employees trip over them, or, through abuse, become frayed so that the danger of shock is again present.

These dangers are removed with the new plug. It is rated at 40w., which is adequate for low-consumption devices like inspection lamps and soldering irons.

*Dohm Group, 167 Victoria Street, London S.W.1*

### No Fumes

WHEREVER processes require tanks of warm liquid, acid, or caustic, *Serseal* will reduce fumes and spray. It will also cut the

amount of heat required to warm the tank by up to 75 per cent.

The *Serseal* process seals the tank with a layer of inert material and thus contains fumes, steam, and heat. Exhausting equipment can often be dispensed with. Heating units need less cleaning and maintenance costs are reduced. Where acid spray is a nuisance, it can be reduced or eliminated by certain grades of *Serseal*.

*Imperial Chemical Industries, Millbank, London S.W.1*

### Crane for Long Loads

LONG lengths of timber and steel can be lifted and slewed round to pass safely through narrow doorways by means of a new attachment for a mobile crane. Normally, long lengths have to be awkwardly and dangerously manhandled by two or more men before they will pass through doorways.

The attachment consists of a steel platform fixed to one side of the crane opposite the driver. Long loads are lifted, slewed round, lowered on to the platform, and the jib returned to its original position. Now the crane is ready to pass through a doorway 7ft. 9in. wide by 9ft. high. The front part of the attachment telescopes.

The attachment is specially designed for the maker's *Iron Fairy* mobile crane.

*British Hoist and Crane Co. Ltd., Compton, Berks.*

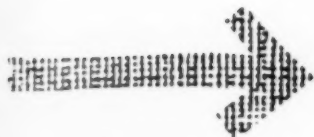
### Lightweight Hoist

ALTHOUGH it weighs only 33lb., a new hoist has a lifting capacity of 10 cwt. The low weight is achieved by extensive use of light alloys. Minimum headroom required is only 11½ in.

For safety, the drop-forged steel hooks are designed to open slowly, without breaking, in the event of severe overload. This warns the operator before any other part of the hoist is damaged. (The hoist has to pass a 50 per cent overload test before leaving the works.)

The brake is of the screw-and-disc type: pressure increases with load. A tug on the hand chain releases the brake for lowering.

Use of ball-bearings makes the hoist very easy to operate. A pull of 70lb. lifts 10cwt. comfortably at



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## BUSINESS Equipment Survey



Use of light alloys keeps weight to 33lb., yet lifting capacity is 10cwt.

### Tugbar Truck

A NEW tugbar truck is claimed to be the only unit that will allow pushing backwards with the handle upright, which greatly assists manoeuvring in cramped spaces. It is light to handle and is therefore suitable for use by women and juveniles.

The handle can be locked in three positions for ease in pulling or pushing, giving a high degree of mobility and allowing precise positioning of the load.

*H. C. Slingsby Ltd., 95 Kingsway, London W.C.2*

There is a choice of plain milk, flavoured milk or an orange drink.

The cabinet has a capacity of 210 half-pints. It is finished in two-tone blue and stands about 6½ft. high. Floor area required is about 4 sq. ft. A point of sale sign is illuminated by fluorescent tubes.

*Joseph Sankey and Sons Ltd., Hedley Castle Works, Wellington, Shrops.*



Choice of three drinks

4½ft. per min.: at quarter load the comfortable lifting speed is raised to 11ft. per min.

*Yale and Towne Manufacturing Co., Wednesfield, Staffs.*

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### Chilled Drink Vender

HALF-PINT cartons of beverage, cooled to about 37 deg. F., are dispensed by the *Vendo* on the insertion of sixpence into a slot.

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### Time-honoured —or time-worn?

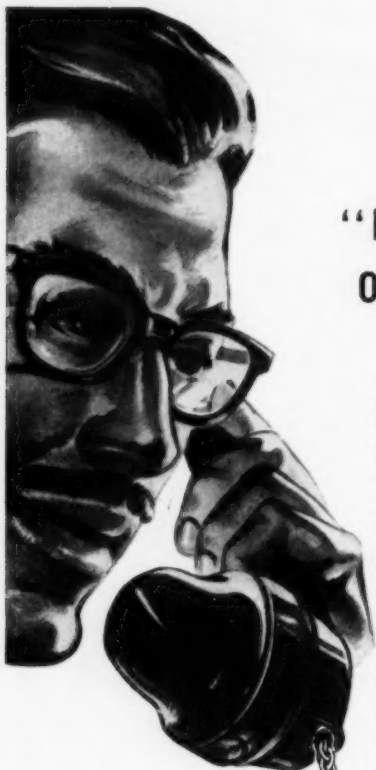
Does the charm of that beautiful old carpet still linger—but only in patches? Do you still enjoy r-e-a-c-h-i-n-g for things, all over that monument of a desk? All the time your office has been "growing on you", it's been growing old, too. And to other people it may look it. Catesbys Contracts can sort things out so that your daily business life really is more smooth running—and rewarding. Ring them at Museum 7777 (or send a letter if you're abroad). They can replace and rebuild, decorate the room and furnish it—all specifically for *you*—all in the best of taste, for the smallest of budgets, in the shortest time.



Interior construction and furnishing by

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"Yes, the layout is flexible; you can make alterations before we go ahead—or change things around later if your needs alter; all the material can be re-erected easily without waste.

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## Variety Reduction

*Starts on page 104*

They included a general description, material, dimensions, B.S. specification, and commercial quality. For bought-out items the following information was given as well: maker's name, brand and/or reference number, Hall's reference number, date of last delivery, amount in stock and date of last issue. This stage of the investigation helped to drive home the ambiguity of terms describing even the simplest items.

The outcome was the instant elimination from the stock lists of duplicated or redundant items. In one case, for example, threaded steel to identical specifications had been supplied by two different manufacturers. The material had been listed separately under the suppliers' names and stored in different places—with nothing in the records to relate the two stocks.

Where necessary, a photocopied drawing of the item was attached to the information card. The cards were then sent in batches to the consultants for classification and coding.

Numbers are not allocated arbitrarily in the system used—each immediately discloses the essential characteristics of the item to which it refers. When read from left to right, each digit of the code-number progressively makes the description more specific.

Take the case of the code number 1174-401. The first four digits (from the left) represent the 'surname' and might be read as follows:

- 1xxx—Primary material
- x1xx—Iron and carbon steel
- xx7x—Tube
- xxx4—Mild steel

Moving from the general to the particular, the last three digits are the 'Christian name'. They might read:

- 4xx—Round, seamless, specified lengths



x01—0.75in. OD x 10 standard wire gauge x 27.5in. long

Clearly it would be impossible to apply the same seven digits to any other item. Thus the system automatically avoids duplication—yet is flexible enough to permit the introduction of new items, at any time.

The allocation of code numbers depends on the way in which the items are classified. An important feature of the system is that each classification is tailored to the user's needs. If, for example, Halls had been making mining equipment, the same primary materials would have been classified in a different way; the 'sets' of characteristics thrown up by the code numbers would be appropriate to that type of manufacturing industry.

To reduce this principle to a simple example, a copper tube may have two salient features—conductivity and malleability. The electrician would regard conductivity as more important, but for a plumber what matters is the ease with which the material can be worked.

The consultants took about four months to classify and code Halls' materials, fixings and fastenings. This work was based on their preliminary discussions with the firm, and on a systematic grouping and re-grouping of the information cards. (In principle, the whole process is like the arrangement of a hand of playing cards).

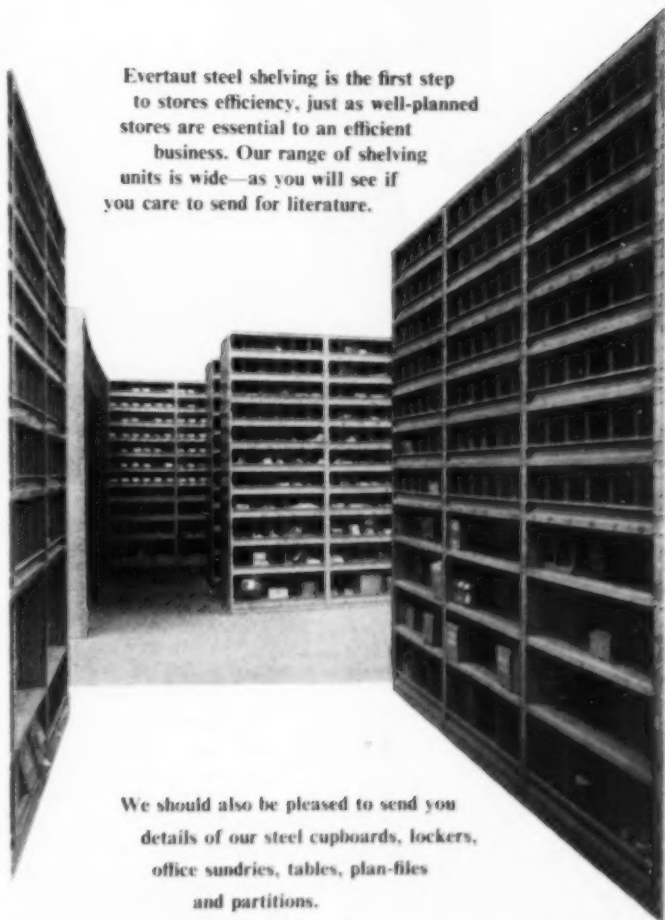
The results of the classification and coding were finally presented to the firm in the form of a new stock catalogue.

It is one thing to produce a catalogue, but another to establish its use. Work could not stop while drawing office, stores and ordering system were switched over to the new method: the change had to be gradual.

All the cards in the existing index had first to be arranged in the sequence of the new numbers. Then conversion lists had to be supplied to all departments. This allowed staff time to familiarize themselves with the new system and so reduced mistakes. It was also an insurance against confusion due to the large

## EFFICIENCY IN STORE

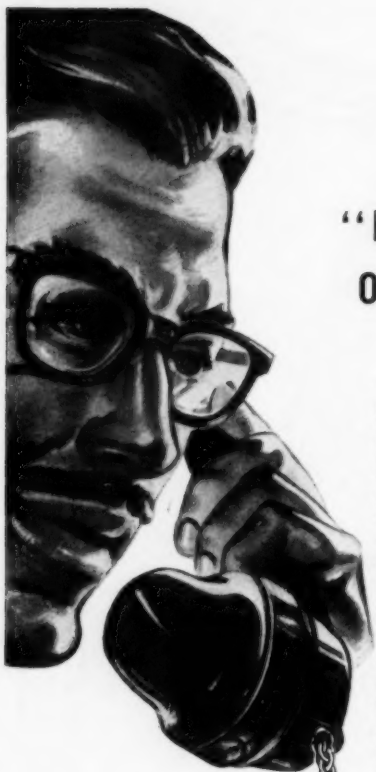
Evertaut steel shelving is the first step to stores efficiency, just as well-planned stores are essential to an efficient business. Our range of shelving units is wide—as you will see if you care to send for literature.



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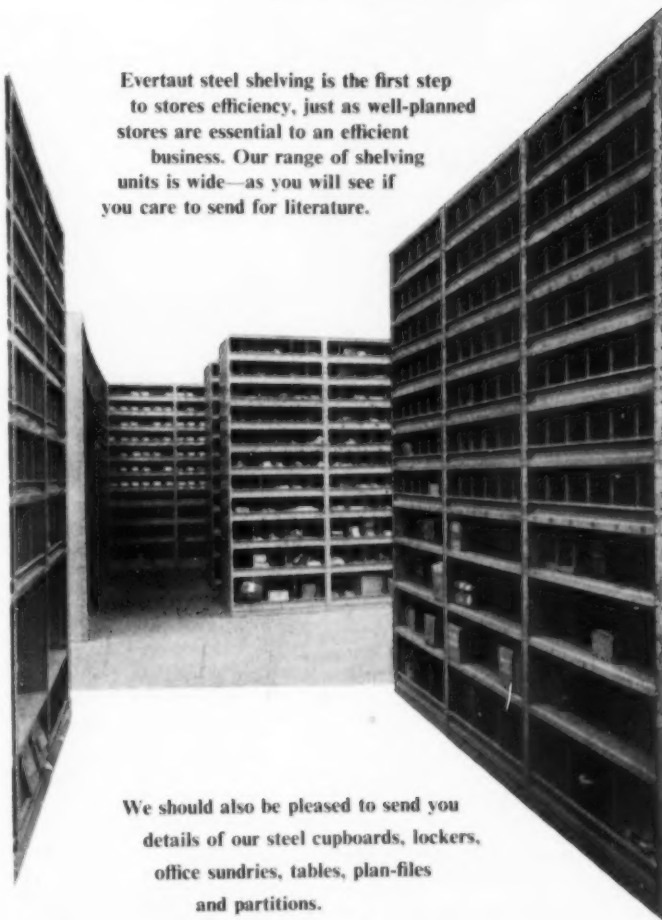
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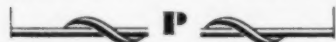
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number of parts lists that were  
inevitably floating about during the  
changeover period.

The first department to go over  
completely was Stock Control. Cata-  
logues and lists were changed during  
one weekend. The stores took a little  
longer, the bins being marked up with  
both sets of numbers before intro-  
duction of the Brisch catalogue. This  
permitted the gradual re-arrangement  
of materials without enlarging the  
stores labour force. The drawing  
office, on the other hand, converted  
to the new system as jobs came in.

Since the changeover, draughtsmen  
and works personnel have become so  
familiar with the system that they can  
now recognize families of items from  
their coding alone.

The results of introducing the new  
system have been impressive. Mater-  
ial stocks have been reduced from  
2,729 items to 1,929, or by almost 30  
per cent. Fixings and fastenings have  
been reduced from 1,883 items to  
1,464—over 20 per cent.

The system has produced other ad-  
vantages as well:

—It has eliminated the creation of  
identical or near-identical parts. (If  
a new part has to be created, it is  
often possible to incorporate in the  
design the key features of several  
existing parts—and so replace them).

—The issue of stores is simpler  
when they are laid out in code-order.  
Similar items are physically grouped,  
so it is easier to locate the nearest  
equivalent if the part required is out  
of stock.

—There is a big saving in drawing  
office time, since more use can be  
made of existing items.

—More information can be extrac-  
ted from punched card analyses and  
tabulations, because the layout of the  
cards can be designed on the basis of  
constant code-length.

Halls' have found these advantages  
so great that they are now extending  
the system to their full range of com-  
ponents.

END

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APRIL, 1958

## New Committee Speeds up Expansion Plans

*Starts on page 74*

'brainstorming' sessions. This element remains; but now the emphasis is on developing the more promising ideas which have been thrown up. The committee's main function is to co-ordinate such activities as

- establishing formulations;
- ensuring the supply of raw materials and packaging materials;
- establishing pack sizes and shipping quantities;
- resolving production problems;
- studying competitive products;
- establishing availability dates.

In all cases the requirements of entirely new products are considered in relation to the possibility of developing existing products still further.

A big advantage of the committee system is that it produces more ideas than are actually needed. Therefore the more promising can be developed, either partly or wholly, and then kept 'on ice' until the sales divisions see opportunities to go ahead with them. To have a bank of new products is of great value in a highly competitive market.

In its search for new ideas, the committee has cast its net widely. From time to time all employees are invited to suggest new products or product-names. Questionnaires are used for this purpose and prizes up to £25 are awarded. Some of the employees' ideas have been incorporated in products which are to be introduced during the next few months.

Two meetings a month—perhaps more as the number of products increases; two or three hours at each meeting; five senior executives. E. R. Howard admit that the committee system is a big time-consumer. But, in practice, they claim, it actually saves time by concentrating into a few sessions all the 'droppings in' and telephone calls which helped to launch a new product in the past. END

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## How to Prepare for Your Trip Abroad

Starts on page 84

visiting cards. Get several sets printed, one in the language of your country, the remainder in the languages and characters of the respective countries which you are visiting. The presentation of a card written in the contact's own language is often received as a mark of respect to him and his country.

Be sure to leave the fullest possible details of your itinerary not only with your family but with your business colleagues.

**Writing Equipment.** Gather together your stationery requirements for your report-writing, personal, and general correspondence.

If you do not type, this is the time to start teaching yourself. On journeys abroad, it will pay you to be your own secretary. Type-written reports to your head office are so much easier to read than hand-written reports, and if you need to present written quotations and terms to your contacts, these should certainly be typed. Select a small portable machine, which can be used as conveniently in an aircraft, ship, or railway train, as in your hotel bedroom.

A portable typewriter is generally recognised as part of the export representative's baggage. But if you try to travel with a tape-recorder, dictaphone, or any other complicated instrument, you may find yourself in embarrassing situations at various customs barriers.

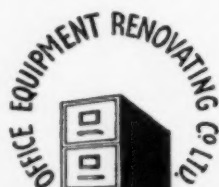
**Pocket Information.** Lastly, compile the following information in a pocket notebook for quick reference:

- 1—The names, addresses, telephone numbers of all your contacts, travel agents, and hotels.
- 2—Details of currencies and rates of exchange.
- 3—Local weights and measures.
- 4—Details of terms and prices for

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END

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Year	Con- version Factor	Year	Con- version Factor
1913	4.19	1935	2.91
1919	1.93	1936	2.85
1920	1.69	1937	2.71
1921	1.86	1938	2.68
1922	2.29	1939	2.60
1923	2.39	1946	1.74
1924	2.39	1947	1.65
1925	2.39	1948	1.53
1926	2.44	1949	1.49
1927	2.50	1950	1.45
1928	2.53	1951	1.32
1929	2.55	1952	1.21
1930	2.65	1953	1.18
1931	2.85	1954	1.15
1932	2.91	1955	1.11
1933	2.98	1956	1.05
1934	2.98	1957	1.02

APRIL, 1958



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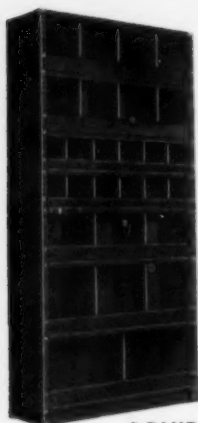
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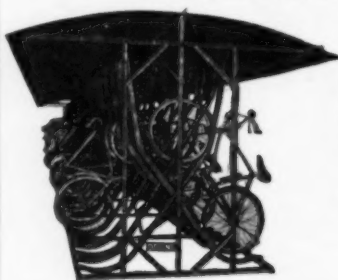
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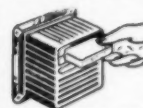
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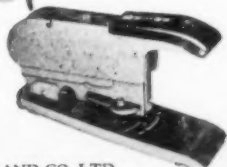


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